=> fil reg; d stat que l12; fil capl; d que nos l23; d que nos l24; d que nos l26;d que nos l28;d que nos l43
FILE 'REGISTRY' ENTERED AT 14:57:44 ON 13 AUG 2002
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STRUCTURE FILE UPDATES: 12 AUG 2002 HIGHEST RN 443729-39-3
DICTIONARY FILE UPDATES: 12 AUG 2002 HIGHEST RN 443729-39-3

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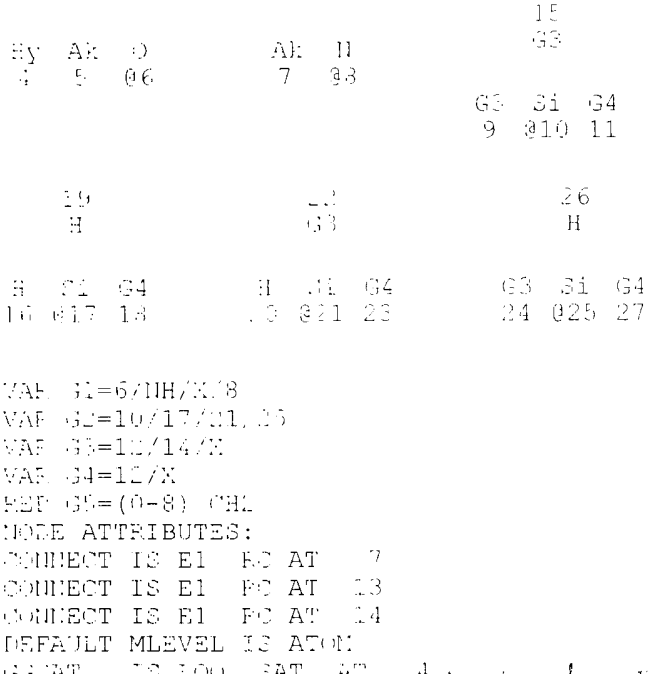
On-saver limits have been increased. See HELP CROSSOVER for details.

Calculated physical property data is now available. See HELP PROPERTIES for more information. See STNote 27, Searching Properties in the CAS Registry File, for complete details:
http://www.cas.org/ONLINE/STN/STNOTES/stnotes27.pdf

L23 STR



Ak = alkyl
Hy = heteroatom

VAR G1=6/NH/X/8
VAR G2=10/17/21,25
VAR G3=12/14/X
VAR G4=12/X
REP G5=(0-8) CHL
NODE ATTRIBUTES:
CONNECT IS E1 RC AT 7
CONNECT IS E1 RC AT 13
CONNECT IS E1 RC AT 24
DEFAULT MLEVEL IS ATOM
GGCAT IS LOC SAT AT 4
DEFAULT ECLEVEL IS LIMITED
ECOUNT IS E1 O AT 4

Hy at node 4 is saturated, & has exactly one oxygen

GRAPH ATTRIBUTES:
RING(S) ARE ISOLATED OR EMBEDDED
NUMBER OF NODES IS 28

STEREO ATTRIBUTES: NONE
L10 SCR 2026 AND 1006
L12 8068 SEA FILE=REGISTRY SSS FUL L8 AND L10

100.0% PROCESSED 23903 ITERATIONS 8068 ANSWERS
SEARCH TIME: 00.00.25

FILE 'CAPLUS' ENTERED AT 14:57:44 ON 13 AUG 2002
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FILE COVERS 1907 - 13 Aug 2002 VOL 137 ISS 7
FILE LAST UPDATED: 12 Aug 2002 (20020812/ED)

This file contains CAS Registry Numbers for easy and accurate substance identification.

'AN' roles have been modified effective December 16, 2001. Please check your SDI profiles to see if they need to be revised. For information on CAS roles, enter HELP ROLES at an arrow prompt or use the CAS Roles thesaurus (/RL field) in this file.

```
L8              STR
L9              SCR 2026 AND 1006
L10          8068 SEA FILE=REGISTRY SSS FUL L8 AND L10
L12         11403 SEA FILE=CAPLUS ABB=ON  L11
L13          2317 SEA FILE=CAPLUS ABB=ON  SOLID SUPPORT# OBI
L14          6566 SEA FILE=CAPLUS ABB=ON  MICROARRAY?/OBI OR MICRO(L)ARRAY?/OBI
L15            27 SEA FILE=CAPLUS ABB=ON  L13(L)L11
L20            17 SEA FILE=CAPLUS ABB=ON  L13(L)L17
L23             4 SEA FILE=CAPLUS ABB=ON  (L19 AND L17) OR (L20 AND L15)



L7              STR
L10             SCR 2026 AND 1006
L11          8068 SEA FILE=REGISTRY SSS FUL L8 AND L10
L12         11403 SEA FILE=CAPLUS ABB=ON  L11
L13          2317 SEA FILE=CAPLUS ABB=ON  SOLID SUPPORT# OBI
L14          6566 SEA FILE=CAPLUS ABB=ON  MICROARRAY?/OBI OR MICRO(L)ARRAY?/OBI
L15            20 SEA FILE=CAPLUS ABB=ON  L13(L)L11
L20            17 SEA FILE=CAPLUS ABB=ON  L13(L)L17
L24            18 SEA FILE=CAPLUS ABB=ON  (L19 OR L20) AND 9/SC,SX  - Section one 9 =
                                                                    Biochemical Methods



L7              STR
L10             SCR 2026 AND 1006
L11          8068 SEA FILE=REGISTRY SSS FUL L8 AND L10
L12         11403 SEA FILE=CAPLUS ABB=ON  L11
L13          2317 SEA FILE=CAPLUS ABB=ON  SOLID SUPPORT# OBI
L14          6566 SEA FILE=CAPLUS ABB=ON  MICROARRAY?/OBI OR MICRO(L)ARRAY?/OBI
L15           737 SEA FILE=CAPLUS ABB=ON  L13(L)ANST/RL - Role ANST = analytical study
L26            12 SEA FILE=CAPLUS ABB=ON  (L15 OR L17) AND L20
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L8 STR
L10 SCR 2026 AND 1006
L11 8068 SEA FILE=REGISTRY SSS FUL L8 AND L10
L12 21405 SEA FILE=CAPLUS ABB=ON L11
L13 787 SEA FILE=CAPLUS ABB=ON L12/(L)ANST/PL
L27 249408 SEA FILE=CAPLUS ABB=ON MODIFY/OBI
L31 165099 SEA FILE=CAPLUS ABB=ON DNA+OLD/CT
L32 144371 SEA FILE=CAPLUS ABB=ON RNA+OLD/CT
L33 6727 SEA FILE=CAPLUS ABB=ON PEPTIDE?/CT
L34 26847 SEA FILE=CAPLUS ABB=ON POLYSACCHARIDES+OLD/CT
L35 111161 SEA FILE=CAPLUS ABB=ON LIPIDS+OLD/CT
L36 19416 SEA FILE=CAPLUS ABB=ON CONJUGATE?/OBI
L37 9586 SEA FILE=CAPLUS ABB=ON (L33 OR L34 OR L35)(L)(L27 OR L36)
L38 9 SEA FILE=CAPLUS ABB=ON L37 AND L12

L8 STR
L10 SCR 2026 AND 1006
L11 8068 SEA FILE=REGISTRY SSS FUL L8 AND L10
L12 21405 SEA FILE=CAPLUS ABB=ON L11
L27 249408 SEA FILE=CAPLUS ABB=ON MODIFY?/OBI
L36 19416 SEA FILE=CAPLUS ABB=ON CONJUGATE?/OBI
L41 6666 SEA FILE=CAPLUS ABB=ON MICROARRAY?/OBI OR MICRO(L)ARRAY?/OBI
L42 941 SEA FILE=CAPLUS ABB=ON L11 (L) (L13 OR L16 OR L17)
L43 757 SEA FILE=CAPLUS ABB=ON L11 (L) L13/ANST/PL
L44 1 SEA FILE=REGISTRY ABB=ON CYTOSINE/CN
L45 1 SEA FILE=REGISTRY ABB=ON GUANINE/CN
L46 10291 SEA FILE=CAPLUS ABB=ON L44 OR CYTOSINE/OBI
L47 37497 SEA FILE=CAPLUS ABB=ON L45 OR GUANINE/OBI
L48 8 SEA FILE=CAPLUS ABB=ON (L38 OR L27) AND (L41 OR L42)

=> s l23 or l24 or l26 or l38 or l48
L49 41 L23 OR L24 OR L26 OR L38 OR L48

=> d ibib abs hitstr l45 1-41; fil hom

L49 ANSWER 1 OF 41 CAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 2002:436624 CAPLUS
DOCUMENT NUMBER: 137:43915
TITLE: Method of attaching a biopolymer to a solid support using bromoacetamidosilanes to functionalize the support
INVENTOR(S): Firman, Michael C.; Odenbaugh, Amy L.; Connors, Richard V.; Worden, Janice D.
PATENT ASSIGNEE(S): USA
SOURCE: U.S. Pat. Appl. Publ., 13 pp.
CODEN: USXXCO
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 20020076832	A1	20020620	US 2001-871691	20010604

PRIORITY APPLN. INFO.: US 2000-208493P P 20000602
OTHER SOURCE(S): MARPAT 137:43915

AB The present invention relates, in general, to a method of attaching a biopolymer to a solid support and, in particular, to a method of attaching a nucleic acid to a glass surface, and to reagents suitable for use in such a method. The invention further relates to the product produced by the present method and to kits comprising same. Clean microscope slides were silanized with N-(3-diethoxymethylsilylpropyl)bromoacetamide (prepn. given). Four oligonucleotides differing in only the nucleotide at their 5'-ends, 3'-ends were arrayed. When the array was treated with polymerase and fluoresceinated terminator, specific labeling of only the primer with perfect complementarity to the template was obsd.

IT **3179-76-8**, (3-Aminopropyl)methyldiethoxysilane **18306-79-1**, 3-Aminopropyldimethylethoxysilane
RL: RCT (Reactant); RACT (Reactant or reagent)
(method of attaching biopolymers to **solid supports** using bromoacetamidosilanes to functionalize supports)

RN 3179-76-8 CAPLUS
CN 1-Propanamine, 3-(diethoxymethylsilyl)- (9CI) (CA INDEX NAME)

OEt

H2N (CH2)3 Si OEt

Me

RN 18306-79-1 CAPLUS
CN 1-Propanamine, 3-(ethoxydimethylsilyl)- (9CI) (CA INDEX NAME)

OEt

H2N (CH2)3 Si Me

Me

IT **256352-86-0P 256352-87-1P 256352-89-3P 437610-24-7P**
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(method of attaching biopolymers to **solid supports** using bromoacetamidosilanes to functionalize supports)

RN 256352-86-0 CAPLUS
CN Acetamide, 2-bromo-N-[3-(diethoxymethylsilyl)propyl]- (9CI) (CA INDEX NAME)

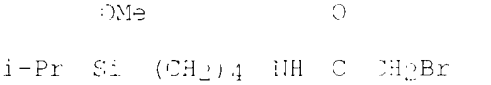
OEt O

Br CH2 C NH (CH2)3 Si OEt

RN 256352-87-1 CAPLUS
CN Acetamide, 2-bromo-N-[3-(ethoxydimethylsilyl)propyl]- (9CI) (CA INDEX NAME)

RN 256351-44-3 CAPLUS
CN 1-Butanamine, 4-[methoxybis(1-methylethyl)silyl]- (9CI) (CA INDEX NAME)

RN 447610-14-7 CAPLUS
CN Acetamide, 2-bromo-N-[4-[methoxybis(1-methylethyl)silyl]butyl]- (9CI) (CA INDEX NAME)



L45 ANSWER 1 OF 41 CAPLUS COPYRIGHT 2002 ACS
ACCESSION NUMBER: 2002:172444 CAPLUS
DOCUMENT NUMBER: 136:129021
TITLE: High-density functional slide for biomolecule immobilization and preparation method thereof for use in high-efficiency bio-chip/microarray
INVENTOR(S): Ho, Chih-wei; Chow, Ze-sho; Jan, Bor-iuan; Tsao, Jia-huey; Pan, Chao-chi; Kuo, Wen-hsun; Chang, Yao-sung; Wu, Cheng-tao; Liu, Yu-ching
PATENT ASSIGNEE(S): Taiwan
SOURCE: U.S. Pat. Appl. Publ., 14 pp.
CODEN: USXXCO
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

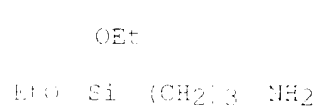
PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 20020018506	A1	20020307	US 2001-836312	20010416
PRIORITY APPLN. INFO.:			TW 2000-89115076 A	20000804

AB The invention features a method for prepg. a high-d. functional slide with ultra-thin layer by coating a sol-gel solng. amine-group bearing silanes and a soln. contg. polyaldehyde groups onto an org. or inorg. substrate, resp. The resulting slide is useful in the prepn. of highly homogeneous functional-group slides and the high-d. and high-efficiency bio-chip/microarray. In one preferred embodiment of the present invention, the polyaldehyde polymer is prepd. via the graft co-polymn. of polyvinylalc.-based polyaldehyde. Therefore, the present invention also provides a polyvinylalc.-based polyaldehyde graft copolymer, which is prepd. by the following steps: (a) dissolving polyvinylalc. in water to

form a polymeric soln.; (b) adding the monomer of allyl alc. and acrolein to the polymeric soln. under anaerobic conditions; and (c) adding ceric ammonium nitrate to the soln. for catalysis. The polyvinylalc.-based polyaldehyde graft copolymer comprises 2-10% (w/v) polyvinylalc., 2-10% (vol. vol.) monomer of acrolein and 1-5% (vol./vol.) monomer of allyl alc.

IT **919-30-2**, Aminopropyltriethoxysilane
RL: DEV (Device component use); USES (Uses)
(APTES, sol-gel; high-d. functional slide for biomol. immobilization and prepn. method thereof for high-efficiency bio-chips)
microarray

RN 919-30-2 CAPLUS
CN 1-Propanamine, 3-(triethoxysilyl)- (9CI) (CA INDEX NAME)



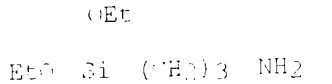
L4 ANSWER 5 OF 41 CAPLUS COPYRIGHT 2002 ACS
ACCESSION NUMBER: 2002:90792 CAPLUS
DOCUMENT NUMBER: 136:276611
TITLE: Characteristics of DNA **microarrays** fabricated on various aminosilane layers
AUTHOR(S): On, Soon Jin; Cho, Sung Ju; Kim, Chang Ok; Park, Joon Won
CORPORATE SOURCE: Center for Integrated Molecular Systems, Department of Chemistry, Division of Molecular and Life Sciences, Pohang University of Science and Technology, Pohang, 790-784, S. Korea
SOURCE: Langmuir (2002), 18(5), 1764-1769
CODEN: LANGD5; ISSN: 0743-7463
PUBLISHER: American Chemical Society
DOCUMENT TYPE: Journal
LANGUAGE: English

AB Four kinds of aminosilane layers on glass slides or silicon wafers were prepd. The amine densities of the layers prepd. with aminopropyldiethoxymethylsilane (APDES), aminopropylmonoethoxydimethylsilane (APMES), a mixt. of (aminopropyl)triethoxysilane (APTES) and n-butyltrimethoxysilane (n-BTMS) (vol./vol. = 1:10) are 4.0(.+-.0.8), 1.1(.+-.0.1), and 0.30(.+-.0.6) amine/nm^2, resp. A substrate with much higher amine d., i.e., 40(.+-.6) amines/nm^2 was also prepd. by allowing aziridine to polymerize on the APDES-treated substrate. AFM revealed that APDES-, APMES-, and APTES/n-BTMS-treated surfaces were relatively flat; on the other hand, an aziridine-treated surface showed embossed morphol. The amine substrates were allowed to react with a heterobifunctional linker succinimidyl 4-maleimido butyrate (SMB), and subsequently pentadecadeoxynucleotides were microarrayed on the SMB-treated substrates. Characteristics of the DNA microarrays including the dynamic range, the mismatch discrimination efficiency, and so forth were exand. Noteworthily, DNA microarrays on the aziridine-polymd. substrate showed much higher fluorescence intensity. At the same time, DNA microarrays from these four substrates were able to discriminate internal- and terminal-mismatched pairs, but the fluorescence ratio was far from the one that thermodn. implies.

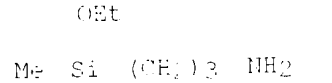
IT **919-30-2**, APTES **3179-76-8 18306-79-1**
RL: ARU (Analytical role, unclassified); PEP (Physical, engineering or chemical process); PYP (Physical process); **ANST (Analytical study)**; PROC (Process)

(DNA **microarrays** fabricated on various aminosilane layers)

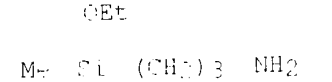
RN 919-30-2 CAPLUS
CN 1-Propanamine, 3-(triethoxysilyl)- (9CI) (CA INDEX NAME)



RN 3179-76-8 CAPLUS
CN 1-Propanamine, 3-(diethoxymethylsilyl)- (9CI) (CA INDEX NAME)



RN 18306-79-1 CAPLUS
CN 1-Propanamine, 3-(ethoxydimethylsilyl)- (9CI) (CA INDEX NAME)



REFERENCE COUNT: 49 THERE ARE 45 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L65 ANSWER 4 OF 41 CAPLUS COPYRIGHT 2002 ACS
ACCESSION NUMBER: 2002:51931 CAPLUS
DOCUMENT NUMBER: 136:80850
TITLE: Compositions and methods for array-based genomic nucleic acid analysis of biological molecules
INVENTOR(S): Bradley, Allan; Cai, Wei-Wen; Marathi, Upendra
PATENT ASSIGNEE(S): UK
SOURCE: U.S. Pat. Appl. Publ., 25 pp., Cont.-in-part of U.S. Ser. No. 546,085.
CODEN: USXXCO
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 2
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 2002006623	A1	20020117	US 2001-853343	20010510
US 6048695	A	20000411	US 1998-71876	19980504
			US 1998-71876 A2	19980504
			US 2000-546085 A2	20000410

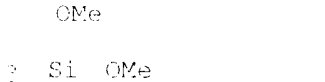
PRIORITY APPLN. INFO.:

OTHER SOURCE(S): MARPAT 136:80850

AB The invention provides biol. mols. modified by reaction with a compd. having the formula: R1-X-R2, wherein R1 is a cyclic ether group or an amino group, R2 is an alkoxysilane group and X is a moiety chem. suitable for linking the cyclic ether group or the amino group to the alkoxysilane

group. The invention also provides arrays, or "biochips," comprising these modified biol. mols. Also provided are methods for making and using these compns.
919-30-2, 3-Aminopropyltriethoxysilane 2530-83-8, 3-Glycidoxypropyltrimethoxysilane
RL: ARG (Analytical reagent use); BUU (Biological use, unclassified); ANST (Analytical study); BIOL (Biological study); USES (Uses)
(compns. and methods for array-based genomic nucleic acid anal. of biol. mols.)
RN 919-30-2 CAPLUS
CN 1-Propanamine, 3-(triethoxysilyl)- (9CI) (CA INDEX NAME)

RN 2530-83-8 CAPLUS
CN Silane, trimethoxy[3-(oxiranylmethoxy)propyl]- (9CI) (CA INDEX NAME)



L45 ANSWER 5 OF 41 CAPLUS COPYRIGHT 2012 ACS
ACCESSION NUMBER: 2002:51489 CAPLUS
DOCUMENT NUMBER: 136:99749
TITLE: Improved combination of microporous membrane and solid support for micro-analytical diagnostic applications
PATENT ASSIGNEE(S): Cuno, Inc., USA
SOURCE: PCT Int. Appl., 39 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 2
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2002004477	A2	20020117	WO 2001-US21210	20010703
WO 2002004477	C1	20020620		
W: AU, BR, JP				
RW: AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR				
US 2002086307	A1	20020704	US 2001-899102	20010703

PRIORITY APPLN. INFO.: US 2000-216390P P 20000706
AB The invention concerns an improved combination microporous membrane and solid support for use in micro-anal. diagnostic applications is disclosed. Specifically, a multi-cell substrate useful for carrying a microarray of biol. polymers on the surface thereof including a multi-cell substrate having a porous membrane formed by a phase inversion process effectively attached by covalent bonding through a surface treatment to a substrate that preps. the substrate to sufficiently, covalently bond to the microporous membrane formed by a phase inversion process such that the combination produced thereby is useful in microarray applications and

wherein the porous nylon multi-cell substrate is covalently bonded to a solid base member, such as, for example, a glass or Mylar microscope slide, such that the combination produced thereby is useful in microarray applications. App. for fabricating a multi-cell substrate is also disclosed. Diagrams describing the app. are given.

IT **919-30-2**, 3-Aminopropyltriethoxysilane **1760-24-3**, N-(2-Aminoethyl)-3-aminopropyltrimethoxysilane **2530-83-8**, 3-Glycidoxypropyltrimethoxysilane
RL: NUU (Other use, unclassified); USES (Uses)
(improved combination of microporous membrane and **solid support** for micro-anal. diagnostic applications)

RN 919-30-2 CAPLUS
CN 1-Propanamine, 3-(triethoxysilyl)- (9CI) (CA INDEX NAME)

OEt

Et$_3$O Si (CH$_2$)$_3$ NH$_2$

OEt

RN 1760-24-3 CAPLUS
CN 1,2-Ethanediamine, N-[3-(trimethoxysilyl propyl]- (9CI) (CA INDEX NAME)

OMe

MeO Si (CH$_2$)$_3$ NH CH$_2$ CH$_2$ NH$_2$

OMe

RN 2530-83-8 CAPLUS
CN Silane, trimethoxy[3-(oxiranylmethoxy)propyl]- (9CI) (CA INDEX NAME)

OMe

CH$_2$ O (CH$_2$)$_3$ Si OMe

OMe

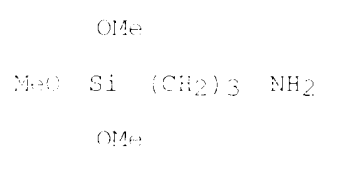
L45 ANSWER 6 OF 41 CAPLUS COPYRIGHT 2002 ACS
ACCESSION NUMBER: 2001:94855 CAPLUS
DOCUMENT NUMBER: 136:161917
TITLE: An Efficient Binding Chemistry for Glass Polynucleotide Microarrays
AUTHOR(S): Lee, Paul H.; Sawan, Samuel P.; Modrusan, Zora; Arnold, Lyle J., Jr.; Reynolds, Mark A.
CORPORATE SOURCE: Incyte Genomics, Microarray Research and Development, Fremont, CA, 94555, USA
SOURCE: Bioconjugate Chemistry (2002), 13(1), 97-103
CODEN: BCCHES; ISSN: 1043-1802
PUBLISHER: American Chemical Society
DOCUMENT TYPE: Journal
LANGUAGE: English
AB A variety of methods have been described for making synthetic polynucleotide microarrays. These include in situ synthesis directly on the array surface, for example, by photolithog. or ink-jet printing technologies, and the application of presynthesized polynucleotides that

are derivatized with various nucleophiles or electrophiles. In the latter case, a variety of surface chemistries have been developed, and several are available com. These chemistries must be compatible with manufacture-scale vols. of polynucleotide reagents, which contact the array over a small portion of their surface. We reasoned that a three-dimensional polymer coating could potentially offer greater surface contact and higher binding efficiency. Here we describe a polyethylenimine-based coating chem. that provides exceptional binding and hybridization characteristics. In our preferred process, size-fractionated polyethylenimine polymers are cross-linked onto an aminopropylsilanated glass surface in the presence of cyanuric chloride. The resulting three-dimensional coating binds polynucleotides through a mixt. of covalent and noncovalent interactions as evidenced by comparisons between 5'-aminoalkyl modified and unmodified polynucleotides. Binding and hybridization comparisons are presented including analogous two-dimensional electrophilic and electrostatic chemistries.

IT **13822-56-5**, 3-Aminopropyltrimethoxysilane
RL: RCT (Reactant); RACT (Reactant or reagent)
(efficient binding chem. for glass polynucleotide **microarrays**
, synthesis and characterization of glass surface coatings)

RN 13822-56-5 CAPLUS

CN 1-Propanamine, 3-(trimethoxysilyl)- (9CI) (CA INDEX NAME)



REFERENCE COUNT: 17 THERE ARE 17 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

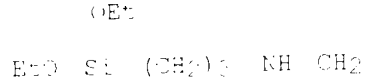
L16 ANSWER 7 OF 41 CAPLUS COPYRIGHT 2002 ACS
ACCESSION NUMBER: 2001:86771 CAPLUS
DOCUMENT NUMBER: 136:163471
TITLE: HPLC of some nucleosides and bases on p-tert-butyl-calix[6]arene-bonded silica gel stationary phase
AUTHOR(S): Xiao, Yu-Xiu; Xiao, Xiang-Zhu; Feng, Yu-Qi; Wang, Chong-Hua; Da, Shi-Lu
CORPORATE SOURCE: College of Life Sciences and Department of Chemistry, Wuhan University, Wuhan, 430072, Peop. Rep. China
SOURCE: Journal of Liquid Chromatography & Related Technologies (2001), 24(19), 2923-2942
CODEN: JLCTFC; ISSN: 1082-6076
PUBLISHER: Marcel Dekker, Inc.
DOCUMENT TYPE: Journal
LANGUAGE: English

AB The high-performance liq. chromatog. behavior of some nucleosides and bases was studied on a new p-tert-butyl-calix[6]arene-bonded silica gel stationary phase. The effect of mobile phase variables, such as ionic strength, methanol content, and pH on their chromatog. behavior was investigated. Some nucleosides and bases were successfully sepd. on the new stationary phase. Their retention behavior was compared with that on both Zorbax C18 phase and-(ethylenediamino)propyl-triethoxysilane-bonded silica gel. The results indicate that the new stationary phase behaves as a reversed-phase packing, but its hydrophobicity is much weaker than that of Zorbax C18 phase. The retention mechanism on the new stationary phase was also discussed.

IT **5089-72-5D**, reaction products with polycalixarene acetic acid chlorides

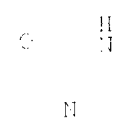
PL: AFU (Analytical role, unclassified); **ANST (Analytical study)**
(HPLC of nucleosides and bases on p-tert-butyl-calix[6]arene-bonded silica gel stationary phase)

RN 5089-72-5 CAPLUS
CN 1,2-Ethanediamine, N-[3-(triethoxysilyl)propyl]- (9CI) (CA INDEX NAME)

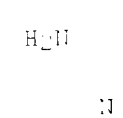


IT **71-30-7, Cytosine 73-40-5, Guanine**
PL: PEP (Physical, engineering or chemical process); PYP (Physical process); PROC (Process)
(HPLC of nucleosides and bases on p-tert-butyl-calix[6]arene-bonded silica gel stationary phase)

RN 71-30-7 CAPLUS
CN (1H)-Pyrimidinone, 4-amino- (9CI) (CA INDEX NAME)



RN 73-40-5 CAPLUS
CN 6H-Purin-6-one, 2-amino-1,7-dihydro- (9CI) (CA INDEX NAME)



REFERENCE COUNT: 26 THERE ARE 26 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L48 ANSWER 8 OF 41 CAPLUS COPYRIGHT 2002 ACS
ACCESSION NUMBER: 2001:748054 CAPLUS
DOCUMENT NUMBER: 135:299495
TITLE: Compositions and methods for detecting and quantifying gene expression in microarrays
INVENTOR(S): Lowe, David G.; Marsters, James C., Jr.; Robbie, Edward P.; Smith, Victoria
PATENT ASSIGNEE(S): Genentech, Inc., USA
SOURCE: PCT Int. Appl., 54 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE

WO [illegible] A2 20011011 WO 2001-US11492 20010411
WO [illegible] A3 20020613
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CR, CU, CZ, DE, DK, DM, DZ, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM
RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG
US 2002081597 A1 20020627 US 2001-823649 20010330
PRIORITY APPLN. INFO.: US 2000-193767P P 20000331

AB Compns. and methods for improving detection sensitivity in nucleic acid microarray anal. are disclosed, including methods of purifying nucleic acids, methods of synthesizing fluorescent DNA probes, methods of hybridization, and methods of activating a substrate for target mol. attachment. The compns. and methods of this invention include synthesis of cDNA, sDNA, or cRNA probes from cellular RNA by in vitro transcription and/or a single-round of reverse transcription with incorporation of fluorochromes. Specific procedures for microarray slide prepn. to decrease background fluorescence are given. For example, silanization of glass slides with toluene as the solvent is preferred. In addn., unmodified polynucleotides can attach to a glass slide treated with 3-aminopropyltriethoxysilane followed by phenylene diisothiocyanate. Modified target DNA can also be synthesized using PCR primers which contain a primary amine and an alkyl linker attached to the 5'-end. The modified target DNA is then reacted with activated silanized glass slides. Microarray hybridization buffers contg. alkylammonium salts, dimethylsulfoxide and formamide and lacking the detergent sodium dodecyl sulfate also improved the detection sensitivity. The invention is illustrated with microarrays hybridized with fluorescent probes synthesized from very small quantities of RNA isolated from microdissected tumor cells, paraffin-embedded liver and colon tissue, fresh frozen liver tissue, and fresh frozen colon tissue. The microarray expts. were designed to compare tissue sample prepn. methods and gene expression in tumor vs. healthy tissues. An example of the sensitivity of these methods shows a microarray hybridized with sDNA probes from one round of amplification of 2 pg of RNA from an ovarian carcinoma cell line.

IT **919-30-2**, 3-Aminopropyltriethoxysilane
RL: BUU (Biological use, unclassified); DEV (Device component use); RCT (Reactant); BIOL (Biological study); RACT (Reaction or reagent); USES (Uses)
(compns. and methods for detecting and quantifying gene expression in **microarrays**)

RN 919-30-2 CAPLUS
CN 1-Propanamine, 3-(triethoxysilyl)- (9CI) (CA INDEX NAME)

OEt

$Si(OEt)_3 NH_2$

OEt

L1 ANSWER 9 OF 41 CAPLUS COPYRIGHT 2002 ACS
ACCESSION NUMBER: 2001:713266 CAPLUS
DOCUMENT NUMBER: 135:264766
TITLE: Polymer coated surfaces for microarray applications
INVENTOR(S): Arnold, Lyle J., Jr.; Sawan, Samuel P.; Lee, Paul H.
PATENT ASSIGNEE(S): Incyte Pharmaceuticals, Inc., USA

Searched by Barb O'Bryen, STIC 308-4291

SOURCE: PCT Int. Appl., 28 pp.
CODEN: PIXXD2

DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

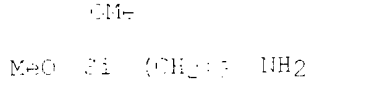
PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2001076641	A1	20011018	WO 2001-US8933	20010321
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				
RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG				
US 6417328	B1	20020702	US 2000-532419	20000322
US 2002037509	A1	20020328	US 2001-775815	20010201
US 6387681	B2	20020514		

PRIORITY APPLN. INFO.: US 2000-532419 A 20000322
OTHER SOURCE(S): MARPAT 135:26066

AB Methods are provide for modifying a solid support, such as a glass slide, by silylating with an agent having the formula H2N(CH2)nSiX3 (n = 1-10, X = independently chosen from OMe, OEt, Cl, Br, I), then activating with a crosslinking reagent, followed by reacting with an amine-contg. polymer. The support can optionally be reacted with a crosslinking reagent again. The support thus modified may be used to make arrays and microarrays where a plurality of targets are stably associd. with the support and arranged in a defined manner. Thus, glass slides were silylated with 3-aminopropyltrimethoxysilane. The silylated slides were reacted with cyanuric chloride then with PEI, polylysine, or polyhistidine. 5'-Aminoalkyl-terminated oligonucleotides were spotted on such slides and used in hybridization assays.

IT **13822-56-5**, 3-Aminopropyltrimethoxysilane
RL: PCT (Reactant); FACT (Reactant or reagent)
(polymer coated surfaces for **microarray** applications)

RN 13822-56-5 CAPLUS
CN 1-Propanamine, 3-(trimethoxysilyl)- (9CI) (CA INDEX NAME)



REFERENCE COUNT: 1 THERE ARE 5 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L45 ANSWER 10 OF 41 CAPLUS COPYRIGHT 2002 ACS
ACCESSION NUMBER: 2001:[illegible] CAPLUS
DOCUMENT NUMBER: 134:[illegible]
TITLE: Dendrimer-activated **solid supports** for nucleic acid and protein **microarrays**
AUTHOR(S): Benters, R.; Niemeyer, C. M.; Wöhrle, D.
CORPORATE SOURCE: Institute of Organic and Macromolecular Chemistry, University Bremen, Bremen, 28334, Germany
SOURCE: ChemBioChem (2001), 2(9), 686-694
CODEN: CBCHFX; ISSN: 1439-4227

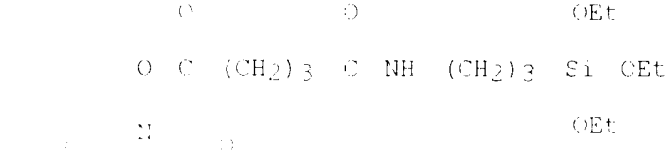
Searched by Barb O'Bryen, STIC 308-4291

PUBLISHER: Wiley-VCH Verlag GmbH
DOCUMENT TYPE: Journal
LANGUAGE: English

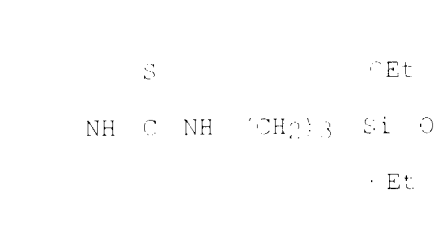
AB The preparation of chem. activated glass surfaces is of increasing interest for the prodn. of microarrays contg. DNA, proteins, and low-mol.-wt. components. We here report on a novel surface chem. for highly efficient activation of glass slides. Our method is based on the initial modification of glass with primary amino groups using a protocol, specifically optimized for high aminosilylation yields, and in particular, for homogeneous surface coverages. In a following step the surface amino groups are activated with a homobifunctional linker, such as disuccinimidylglutarate (DSG) or 1,4-phenylenediisothiocyanate (PDITC), and then allowed to react with a starburst dendrimer that contains 64 primary amino groups in its outer sphere. Subsequently, the dendritic monomers are activated and crosslinked with a homobifunctional spacer, either DSG or PDITC. This leads to the formation of a thin, chem. reactive polymer film, covalently affixed to the glass substrate, which can directly be used for the covalent attachment of amino-modified components, such as oligonucleotides. The resulting DNA microarrays were studied by means of nucleic acid hybridization expts. using fluorophor-labeled complementary oligonucleotide targets. The results indicate that the novel dendrimer-activated surfaces display a surface coverage with capture oligomers about twofold greater than that with conventional microarrays contg. linear chem. linkers. In addn., the expts. suggest that the hybridization occurs with decreased steric hindrance, likely a consequence of the long, flexible linker chain between the surface and the DNA oligomer. The surfaces were found to be resistant against repeated alk. regeneration procedures, which is likely a consequence of the crosslinked polymeric structure of the dendrimer film. The high stability allows multiple hybridization expts. without significant loss of signal intensity. The versatility of the dendrimer surfaces is also demonstrated by the covalent immobilization of streptavidin as a model protein.

IT **392661-75-5 392661-76-6**
RL: ARU (Analytical role, unclassified); DEV (Device component use); **ANST (Analytical study)**; USES (Uses)
(condensation on silica; dendrimer-activated **solid supports** for nucleic acid and protein **microarrays**)

RN 392661-75-5 CAPLUS
CN Pentanamide, 5-[(2,5-dioxo-1-pyrrolidinyl)oxy]-5-oxo-N-[3-(triethoxysilyl)propyl]- (9CI) (CA INDEX NAME)



RN 392661-76-6 CAPLUS
CN Thiourea, N-(4-isothiocyanatophenyl)-N'-[3-(triethoxysilyl)propyl]- (9CI) (CA INDEX NAME)



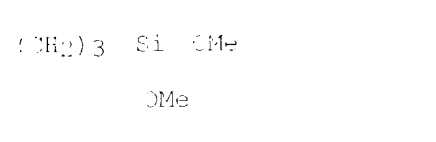
S C N

REFERENCE COUNT: 24 THERE ARE 24 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L15 ANSWER 11 OF 41 CAPLUS COPYRIGHT 2002 ACS
ACCESSION NUMBER: 2001:611620 CAPLUS
DOCUMENT NUMBER: 135:17767
TITLE: Linear microarrays
INVENTOR(S): Schiann, Timothy W.; Park, Sang Chul
PATENT ASSIGNEE(S): Incyte Genomics, Inc., USA
SOURCE: U.S., 11 pp.
CODEN: USXXAM
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 6277628	B1	20010821	US 1998-165465	19981002
US 2001022065	A1	20020919	US 2001-933570	20010820

PRIORITY APPLN. INFO.: US 1998-165465 A1 19981002
AB The present invention provides a method and a compn. for detecting the levels of a plurality of biomol. probes in a sample. In particular, the invention relates to a hybridization compn. for detecting the presence or levels of different polynucleotide sequences in a sample. A YP3 50mer labeled at the 3'-end with a YP3 fluorescent dye was immobilized on epoxide-coated glass beads. A capillary tube was packed with the beads sepd. by alternating unmodified beads to prep. a glass bead array.
IT **2530-83-8**, 3-Glycidoxypropyl-trimethoxysilane
RL: FCT (Reactant); PACT (Reactant or reagent)
(linear **microarrays**
RN 2530-83-8 CAPLUS
CN Silane, trimethoxy[3-(oxiranylmethoxy)propyl]- (9CI) (CA INDEX NAME)



REFERENCE COUNT: 4 THERE ARE 4 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L15 ANSWER 12 OF 41 CAPLUS COPYRIGHT 2002 ACS
ACCESSION NUMBER: 2001:519118 CAPLUS
DOCUMENT NUMBER: 135:19484
TITLE: Oligonucleotides form a duplex with non-helical properties on a positively charged surface
AUTHOR(S): Lomeshko, T. V.; Powdrill, T.; Belosludtsev, Y. Y.; Hogan, M.
CORPORATE SOURCE: Baylor College of Medicine, Houston, TX, 77030, USA
SOURCE: Nucleic Acids Research (2001), 29(14), 3051-3058

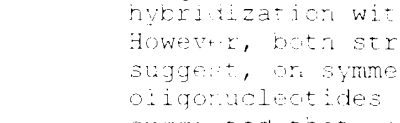
Searched by Barb O'Bryen, STIC 308-4291

CODEN: NARRAS; ISSN: 1471-1144
PUBLISHER: Oxford University Press
DOCUMENT TYPE: Journal
LANGUAGE: English

AB The double helix is known to form as a result of hybridization of complementary nucleic acid strands in aq. soln. In the helix the neg. charged phosphate groups of each nucleic acid strand are distributed helically on the outside of the duplex and are available for interaction with cationic groups. Cation-coated glass surfaces are now widely used in biotechnol., esp. for covalent attachment of cDNAs and oligonucleotides as surface-bound probes on microarrays. These cationic surfaces can bind the nucleic acid backbone electrostatically through the phosphate moiety. Here we describe a simple method to fabricate DNA microarrays based upon adsorptive rather than covalent attachment of oligonucleotides to a pos. charged surface. We show that such adsorbed oligonucleotide probes form a densely packed monolayer, which retains capacity for base pair-specific hybridization with a soln. state DNA target strand to form the duplex. However, both strand dissocn. kinetics and the rate of DNase digestion suggest, on symmetry grounds, that the target DNA binds to such adsorbed oligonucleotides to form a highly asym. and unwound duplex. Thus, it is suggested that, at least on a charged surface, a non- helical DNA duplex can be the preferred structural isomer under std. biochem. conditions.

IT **13822-56-5**, 3-Aminopropyltrimethoxysilane
RL: ARG (Analytical reagent use); **ANST (Analytical study)**; USES (Uses
(oligonucleotides form duplex with non-helical properties on pos. charged surface)

RN 13822-56-5 CAPLUS
CN 1-Propanamine, 3-(trimethoxysilyl)- (9CI) (CA INDEX NAME)



REFERENCE COUNT: 11 THERE ARE 11 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L4 ANSWER 13 OF 41 CAPLUS COPYRIGHT 2002 ACS
ACCESSION NUMBER: 2001:447196 CAPLUS
DOCUMENT NUMBER: 135:73837
TITLE: A novel biosensor of DNA immobilization on nano-gold modified ITO for the determination of mifepristone
AUTHOR(S): Xu, Jinzhong; Zhu, Jun-Jie; Zhu, Yanling; Gu, Nai; Chen, Hong-Yuan
CORPORATE SOURCE: Department of Chemistry, State Key Laboratory of Coordination Chemistry, Nanjing University, Nanjing, 210093, Peop. Rep. China
SOURCE: Analytical Letters (2001), 34(4), 603-612
CODEN: ANALBP; ISSN: 0003-2719
PUBLISHER: Marcel Dekker, Inc.
DOCUMENT TYPE: Journal
LANGUAGE: English

AB A novel DNA modified indium tin oxide (ITO) electrode has been prepd. (3-Aminopropyl)Trimethoxysilane, gold nano-particles and DNA mols. are modified on the ITO electrode surface by self-assembly and electrochem. techniques, resp. This is a simple, stable, repeatable approach. The modified electrode can be used to detect mifepristone. A linear dependence of the peak currents on mifepristone concns. is obsd. in the range 1.times.10-9-6.times.10-6mol/L. The relative std. deviation is 4.5

for six successive detns. at 1.times.10-6 mol/L soln. The detection limit is 2.times.10-7 mol L.

IT **13822-56-5**, (3-Aminopropyl)Trimethoxysilane
PL: ARU (Analytical role, unclassified); DEV (Device component use); **ANST (Analytical study)**; USES (Uses)
(DNA immobilization on nano-gold modified ITO for detn. of mifepristone)

RN 13822-56-5 CAPLUS
CN 1-Propanamine, 3-(trimethoxysilyl - (9CI) (CA INDEX NAME)

RE.CNT 16 THERE ARE 16 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L45 ANSWER 14 OF 41 CAPLUS COPYRIGHT 2002 ACS
ACCESSION NUMBER: 2001:10869 CAPLUS
DOCUMENT NUMBER: 134:30869
TITLE: A factorial analysis of silanization conditions for the immobilization of oligonucleotides on glass surfaces
AUTHOR(S): Halliwell, Catherine M.; Cass, Anthony E. G.
CORPORATE SOURCE: Department of Biochemistry Imperial College of Science Technology and Medicine, University of London, London, SW7 2AY, UK
SOURCE: Analytical Chemistry (2001), 73(11), 2476-2483
CODEN: ANCHAM; ISSN: 0003-2700
PUBLISHER: American Chemical Society
DOCUMENT TYPE: Journal
LANGUAGE: English

AB The modification of glass surfaces with (3-mercaptopropyl)trimethoxysilane and the application of this to DNA chip technol. are described. A range of factors influencing the silanization method, and hence the no. of surface-bound, chem. active thiol groups, were investigated using a design of expt. approach based on anal. of variance. The no. of thiol groups introduced on glass substrates were measured directly using a specific radiolabel, [14C]cysteamine hydrochloride. For liq.-phase silanization, the no. of surface-bound thiol groups was found to be dependent on both postsilanization thermal curing and silanization time and relatively independent of silane concn., reaction temp., and sample pretreatment. Depending on the conditions used in liq.-phase silanization, (1.3-9.0) .times. 1013 thiol groups/cm2 on the glass samples were bound. The reliability and repeatability of liq.- and vacuum-phase silanization were also investigated. Eighteen-base oligonucleotide probes were covalently attached to the modified surfaces via a 5'-amino modification on the DNA and subsequent reaction with the crosslinking reagent N-(.gamma.-maleimidobutyryloxy succinimide ester (GMBS). The resulting probe levels were detd. and found to be stoichiometric with that of the introduced thiol groups. These results demonstrate that silanization of glass surfaces under specific conditions, prior to probe attachment, is of great importance in the development of DNA chips that use the simple concept of the covalent attachment of presynthesized oligonucleotides to silicon oxide surfaces.

IT **919-30-2**, (3-Aminopropyl)triethoxysilane
PL: ARU (Analytical role, unclassified); DEV (Device component use); **ANST (Analytical study)**; USES (Uses)
(factorial anal. of silanization conditions for immobilization of

... (microelectrodes on glass surfaces)
RN 919-30-2 CAPLUS
CN 1-Propanamine, 3-(triethoxysilyl)- (9CI) (CA INDEX NAME)

CET

ET H_2N NH_2

OET

REFERENCE COUNT: 42 THERE ARE 42 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L4 ANSWER 15 OF 41 CAPLUS COPYRIGHT 2002 ACS
ACCESSION NUMBER: 2001:[illegible] CAPLUS
DOCUMENT NUMBER: 135:[illegible]
TITLE: Peptide and small molecule **microarray** for high throughput cell adhesion and functional assays
AUTHOR(S): Salsey, James R.; Kenis, M.; Park, Steven; Li, Shijun; Dam, Kit S.
CORPORATE SOURCE: UC Davis Cancer Center Division of Hematology/Oncology and Department of Internal Medicine, University of California Davis, Sacramento, CA, 95817, USA
SOURCE: Bioconjugate Chemistry (2001), 12(3), 346-353
CODEN: BOCHES; ISSN: 1043-1802
PUBLISHER: American Chemical Society
DOCUMENT TYPE: Journal
LANGUAGE: English
AB A novel class of chem. microchips consisting of glass microscope slides was prepd. for the covalent attachment of small mol. ligands and peptides through site-specific oxime bond or thiazolidine ring ligation reaction. Com. available microscope slides were thoroughly cleaned and derivatized with (3-aminopropyl)triethoxysilane (APTES). The amino slides were then converted to glyoxylyl derivs. via two different routes: (1) coupling of Fmoc-Ser followed by deprotection and oxidn., or (2) coupling with protected glyoxylic acid and final deprotection with HCl. Biotin or peptide ligands derivatized at the carboxyl terminus with a 4,7,10-trioxa-1,13-tridecanediamine succinimic acid linker and an amino-oxy group or a 1,2-amino-thiol group (e.g., cysteine with a free N.alpha.-amino group) were printed onto these slides using a DNA microarray spotter. After chem. ligation, the microarray of immobilized ligands was analyzed with three different biol. assays: (1) protein-binding assay with fluorescence detection, (2) functional phosphorylation assay using [.gamma.-32P]-ATP and specific protein kinase to label peptide substrate spots, and (3) adhesion assay with intact cells. In the cell adhesion assay, not only can we det. the binding specificity of the peptide against different cell lines, we can also det. functional cell signaling of attached cells using immunofluorescence techniques in situ on the microchip. This chem. microchip system enables us to rapidly analyze the functional properties of numerous ligands that we have identified from the "one-bead one-compd." combinatorial library method.
IT **919-30-2**, (3-Aminopropyl)triethoxysilane
RL: ARU (Analytical role, unclassified); DEV (Device component use); **ANST (Analytical study)**; USES (Uses)
(peptide and small mol. **microarray** for high throughput cell adhesion and functional assays)
RN 919-30-2 CAPLUS
CN 1-Propanamine, 3-(triethoxysilyl)- (9CI) (CA INDEX NAME)

OEt

EtO Si (CH2)3 NH2

OEt

REFERENCE COUNT: 42 THERE ARE 42 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L45 ANSWER 16 OF 41 CAPLUS COPYRIGHT 2002 ACS
ACCESSION NUMBER: 2001:159116 CAPLUS
DOCUMENT NUMBER: 134:307457
TITLE: Controlled immobilization of DNA molecules using chemical modification of mica surfaces for atomic force microscopy: Characterization in air
AUTHOR(S): Umemura, Kazuo; Ishikawa, Mitsuru; Kuroda, Reiko
CORPORATE SOURCE: Joint Research Center for Atom Technology (JRCAT)-Angstrom Technology Partnership (ATP), Tsukuba, Ibaraki, 305-0046, Japan
SOURCE: Analytical Biochemistry (2001), 289(2), 232-237
CODEN: ANBCA2; ISSN: 0003-2697
PUBLISHER: Academic Press
DOCUMENT TYPE: Journal
LANGUAGE: English
AB Immobilization of biomols. on surfaces while keeping the max. conformational flexibility of the mols. is one of the most important techniques for at. force microscopy imaging. We have developed two methods of controlling adsorption of DNA mols. on mica surfaces. The first method is the use of a mica surface modified with dild. 3-aminopropyltriethoxysilane (APS). Here we named this a "dild. APS-treated mica (AP-mica)" technique. The second method is the use of a mica surface modified with mixed self-assembled monolayers of organosilanes. In both of the techniques, the no. of DNA mols. immobilized on a mica surface was controlled. Further, a conformational change of circular DNA, from a supercoiled to a relaxed form was obsd. for the mols. immobilized on a dild. AP-mica surface, when 254-nm UV light was irradiated. This observation demonstrated that flexibility of circular DNA mols. was kept on a dild. AP-mica surface. (c) 2001 Academic Press.
IT **919-30-2**, 3-Aminopropyltriethoxysilane
RL: ARU (Analytical role, unclassified); DEV (Device component use); **ANST (Analytical study)**; USES (Uses)
(DNA immobilization using chem. modification of mica surfaces for at. force microscopy: characterization in air)
RN 919-30-2 CAPLUS
CN 1-Propanamine, 3-(triethoxysilyl)- (9CI) (CA INDEX NAME)

OEt

EtO Si (CH2)3 NH2

OEt

REFERENCE COUNT: 25 THERE ARE 25 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L45 ANSWER 17 OF 41 CAPLUS COPYRIGHT 2002 ACS
ACCESSION NUMBER: 2001:152[illegible] CAPLUS
DOCUMENT NUMBER: 134:153906
TITLE: Method for the covalent immobilization and labeling of biopolymers especially the preparation of nucleic acid

Searched by Barb O'Bryen, STIC 308-4291

microarrays
INVENTOR(S): Ansorge, Wilhelm; Faulstich, Konrad
PATENT ASSIGNEE(S): Europaeisches Laboratorium Fuer Molekularbiologie (EMBL), Germany
SOURCE: PCT Int. Appl., 33 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: German
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

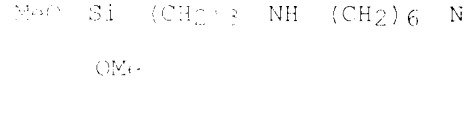
PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2001014585	A1	20010301	WO 2000-EP8193	20000822
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CR, CU, CZ, DE, DK, DM, DZ, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				
RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG				
DE 19940877	A1	20010301	DE 2000-10016073	20000331
EP 1212466	A1	20020612	EP 2000-962356	20000822
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL				

PRIORITY APPLN. INFO.: DE 1999-19940877 A 19990824
DE 2000-10016073 A 20000331
WO 2000-EP8193 W 20000822

AB The invention relates to methods for covalent immobilization of biopolymers, esp. those of nucleic acids, on a solid phase. Covalent bonds are made between primary or and secondary amino groups of said biopolymers and groups of the solid phase which react with said amino groups. Silica-based solid phases with defined functional groups are used for the immobilization of 5' amino-modified nucleotides; the prepd. DNA microarrays are used in amplification procedures.

IT **51895-58-0**
RL: DEV (Device component use); USES (Uses)
(method for covalent immobilization and labeling of biopolymers esp. prepn. of nucleic acid **microarrays**)

RN 51895-58-0 CAPLUS
CN 1,6-Hexanediamine, N-[3-(trimethoxysilyl)propyl]- (9CI) (CA INDEX NAME)



RE.CNT 6 THERE ARE 6 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L1 ANSWER 19 OF 41 CAPLUS COPYRIGHT 2001 ACS
ACCESSION NUMBER: 2000:311410 CAPLUS
DOCUMENT NUMBER: 134:70766
TITLE: Oligonucleotide arrays for high resolution HLA typing
INVENTOR(S): Petersdorf, Effie W.; Guo, Zhen; Hansen, John A.; Hood, Leroy
PATENT ASSIGNEE(S): Fred Hutchinson Cancer Research Center, USA; University of Washington

Searched by Barb O'Bryen, STIC 308-4291

SOURCE: PCT Int. Appl., 63 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2000060036	A1	20001012	WO 2000-US16722	20000616

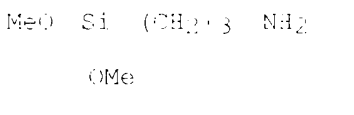
W: AU, CA, JP, US
RW: AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE

PRIORITY APPLN. INFO.: US 1999-139846P P 19990611

AB Arrays of HLA Class I oligonucleotide probes on a solid support are provided, wherein the probes are sufficient to represent at least 80% of the known polymorphisms in exons 2 and 3 of the HLA Class I locus.

IT **13822-56-5**, Aminopropyltrimethoxysilane
RL: ARU (Analytical role, unclassified); BUU (Biological use, unclassified); THU (Therapeutic use); **ANST (Analytical study)**; BIOL (Biological study); USES (Uses)
(**solid support** derivatized with; oligonucleotide arrays for high resoln. HLA typing and transplant compatibility anal.)

RN 13822-56-5 CAPLUS
CN 1-Propanamine, 3-(trimethoxysilyl)- (9CI) (CA INDEX NAME)



OMe
MeO Si (CH2)3 NH2
OMe

REFERENCE COUNT: 3 THERE ARE 3 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L49 ANSWER 14 OF 41 CAPLUS COPYRIGHT 2002 ACS
ACCESSION NUMBER: 2000:669979 CAPLUS
DOCUMENT NUMBER: 134:292357
TITLE: Covalent attachment of DNA to glass supports using a new silane coupling agent and chemiluminescent detection
AUTHOR(S): Zhang, Guojun; Zhou, Yikai; Wu, Xiaoyan; Yuan, Jinwei; Ren, Shu
CORPORATE SOURCE: Institute of Environmental Medicine, Tongji Medical University, Wuhan, 430030, Peop. Rep. China
SOURCE: Journal of Tongji Medical University (2000), 20(2), 89-91
CODEN: JTMUEI; ISSN: 0257-716X
PUBLISHER: Tongji Medical University
DOCUMENT TYPE: Journal
LANGUAGE: English

AB A new kind of silane coupling agent, N-(.beta.-aminoethyl)-.gamma.-aminopropyl triethoxysilane, was used for DNA direct attachment on the surfaces of glass supports, then the immobilized DNA was hybridized with horseradish peroxidase (HRP)-labeled probe, and detected by using enhanced chemiluminescent method. In comparison with .gamma.-aminopropyl triethoxysilane, the detection limits (S/N) of DNA were 10 pg and 75 pg resp. Several exptl. conditions of DNA attaching to glass supports were investigated, and the system of hybridization of nucleic acid on the surfaces of glass supports was developed.

IT **919-30-2**, 3-APTES

RL: AP (Analytical role, unclassified); BAC (Biological activity or effector, except adverse); BPR (Biological process); BSU (Biological study, unclassified); **ANST (Analytical study)**; BIOL (Biological study); PROC (Process)
(covalent attachment of DNA to glass supports using a new silane coupling agent and chemiluminescent detection)
RN 919-30-2 CAPLUS
CN 1-Propanamine, 3-(triethoxysilyl)- (9CI) (CA INDEX NAME)

RE.CNT 6 THERE ARE 6 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L4 ANSWER 20 OF 41 CAPLUS COPYRIGHT 2002 ACS
ACCESSION NUMBER: 2000:679668 CAPLUS
DOCUMENT NUMBER: 134:159607
TITLE: Protein microarrays for monitoring of structural changes of proteins via surface enhanced metal nano cluster resonance
AUTHOR(S): Mayer, Christian; Balkovits, Roland; Bauer, Georg; Schalkhammer, Thomas
CORPORATE SOURCE: Kluyver L. for Biotechnology, TU-Delft, Delft, 2628BC, Neth.
SOURCE: Micro Total Analysis Systems 2000, Proceedings of the .mu.TAS Symposium, 4th, Enschede, Netherlands, May 14-18, 2000 (2000), 553-556. Editor(s): Van den Berg, Albert; Olthuis, W.; Bergveld, Piet. Kluwer Academic Publishers: Dordrecht, Neth.
CODEN: 68AJPB
DOCUMENT TYPE: Conference
LANGUAGE: English
AB Structural changes of ultra thin protein layers caused by changes in micro-environment, meaning a conformational change of the protein, were transduced into a optical signal obsd. directly as a color change of a biochip surface. We have successfully coated proteins as thin films of 10 to 100 nm onto optically reflecting ultra-flat and ultra-pure chip-surfaces via microdotting, spin-coating and subsequent photo-crosslinking. The optical resonance effect was obtained by deposition of metal nano-clusters on top of the proteins. The response of this protein biochip array was measured spectroscopically in the visible and IR range of the spectrum. This set-up enabled us to transduce a change of protein conformation of various serum proteins and enzymes into a signal quant., reversibly and directly visible to the human eye.
IT **3179-76-8**
RL: NUU (Other use, unclassified); USES (Uses)
(protein **microarrays** for monitoring of structural changes of proteins via surface enhanced metal nano cluster resonance)
RN 3179-76-8 CAPLUS
CN 1-Propanamine, 3-(diethoxymethylsilyl)- (9CI) (CA INDEX NAME)

OEt

Me Si $(CH_2)_3$ NH_2

OEt

REFERENCE COUNT: 6 THERE ARE 6 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L45 ANSWER 21 OF 41 CAPLUS COPYRIGHT 2002 ACS
ACCESSION NUMBER: 2000:34365 CAPLUS
DOCUMENT NUMBER: 132:23136
TITLE: Methods and compositions for performing an array of chemical reactions on a support surface
INVENTOR(S): Zebala, John A.
PATENT ASSIGNEE(S): Syntrix Biochip, Inc., USA
SOURCE: PCT Int. Appl., 157 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 4
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2000006284	A2	20000210	WO 1999-US28021	19991123
WO 2000006284	A3	20000518		

W: AE, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CR, CU, CZ, DE, DK, DM, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM

RW: GH, GM, KE, LS, MW, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG

EP 1119624	A2	20010725	EP 1999-961613	19991123

R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO

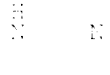
PRIORITY APPLN. INFO.: US 1998-110527P P 19981201
US 1999-324479 A 19990604
WO 1999-US28021 W 19991123

AB Compds. and methods are provided for performing regionally selective solid-phase chem. synthesis of org. compds. Such methods may employ solvent-resistant photoresist compns. to prep. arrays of org. compds., such as ligands, for use within a variety of diagnostic and drug discovery assays. Ligand-arrays may comprise, for example, nucleobase polymers that are resistant to degradative enzymes. DNA probes and enalaprilat analogs were synthesized on glass slides using a photoresist method and used in hybridization assays and ACE inhibitory activity screening.

IT **71-30-7, Cytosine 73-40-5, Guanine**
RL: DEV (Device component use); PRP (Properties); USES (Uses)
(array of nucleobase polymers contg.; methods and compns. for performing arrays of chem. reactions on support surfaces using photoresists)

RN 71-30-7 CAPLUS
CN 2(1H)-Pyrimidinone, 4-amino- (9CI) (CA INDEX NAME)

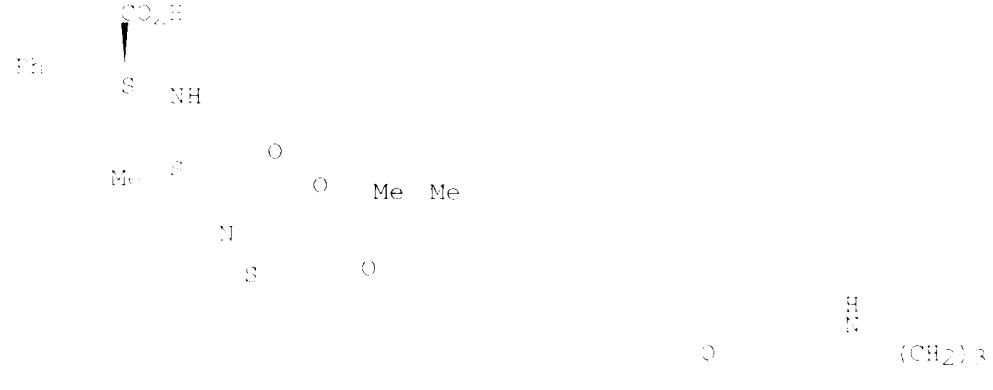
RN 73x-4x-x CAPLUS
CN 6H-Purin-6-one, 2-amino-1,7-dihydro- (9CI) (CA INDEX NAME)



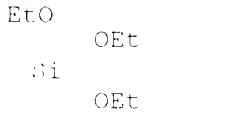
273752-55-9DP, immobilized 273752-56-0DP, immobilized 273752-57-1DP, immobilized 273752-58-2DP, immobilized 273752-59-3DP, immobilized 273752-60-6DP, immobilized 273752-61-7DP, immobilized 273752-62-8DP, immobilized 273752-63-9DP, immobilized
RL: DEV (Device component use); PEP (Physical, engineering or chemical process); RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); PROC (Process); RACT (Reactant or reagent); USES (Uses)
(prepn. and detachment of; methods and compns. for performing arrays of chem. reactions on support surfaces using photoresists)
RN 273752-55-9 CAPLUS
CN L-Proline, N-[(1S)-1-carboxy-2-phenylethyl]-L-alanyl-, 2-[1,1-dimethyl-3-[4-[2-oxo-2-[[3-(triethoxysilyl)propyl]amino]ethoxy]phenyl]propyl] ester (9CI) (CA INDEX NAME)

Absolute stereochemistry.

PAGE 1-A



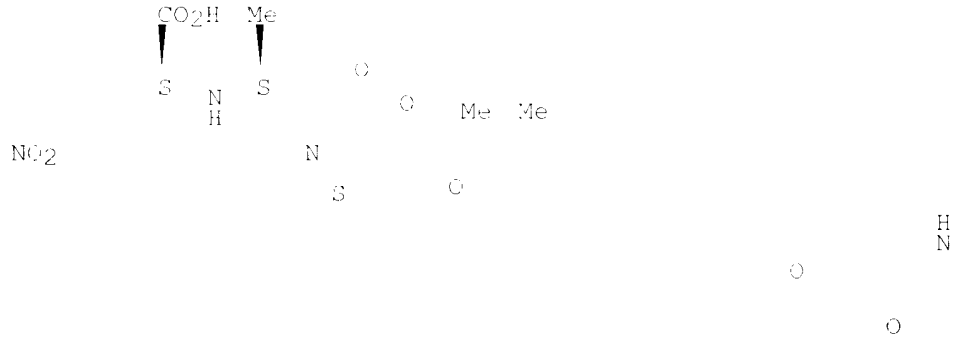
PAGE 1-B



RN 273752-56-0 CAPLUS
CN L-Proline, N-[(1S)-1-carboxy-2-(2-nitrophenyl)ethyl]-L-alanyl-, 2-[1,1-dimethyl-3-[4-[2-oxo-2-[[3-(triethoxysilyl)propyl]amino]ethoxy]phenyl]propyl] ester (9CI) (CA INDEX NAME)

Absolute stereochemistry.

PAGE 1-A



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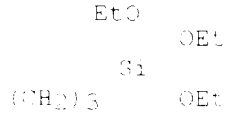


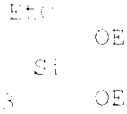
RN 273752-57-1 CAPLUS
CN L-Proline, N-[(1S)-1,3-dicarboxypropyl]-L-alanyl-, 2-[1,1-dimethyl-3-[4-[2-oxo-2-[[3-(triethoxysilyl)propyl]amino]ethoxy]phenyl]propyl] ester (9CI)

(CA INDEX NAME)

Absolute stereochemistry.

PAGE 1-A

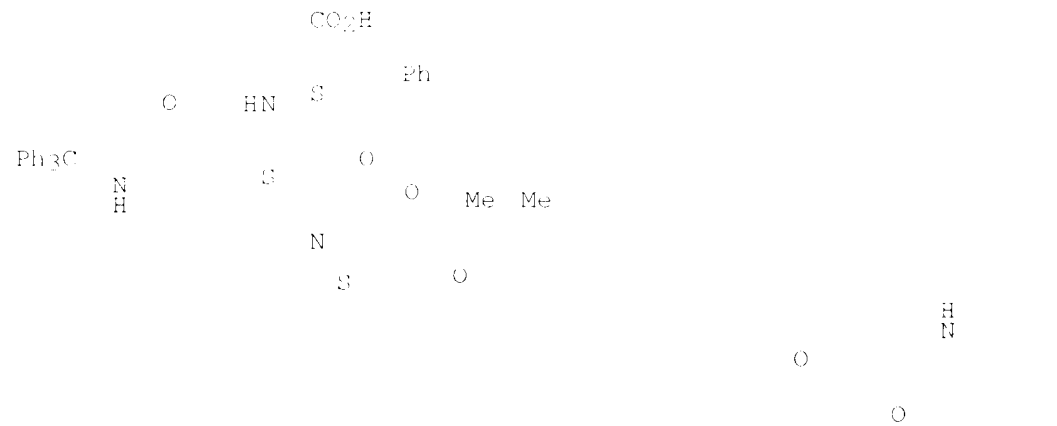
PAGE 1-B



RN 273[illegible]-58-2 CAPLUS
CN L-Proline, N2-[(1S)-1-carboxy-2-phenylethyl]-N-(triphenylmethyl)-L-asparaginyl-, 2-[1,1-dimethyl-3-[4-[2-oxo-2-[[3-(triethoxysilyl)propyl]amino]ethoxy]phenyl]propyl] ester (9CI) (CA INDEX NAME)

Absolute stereochemistry.

PAGE 1-A



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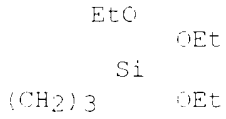
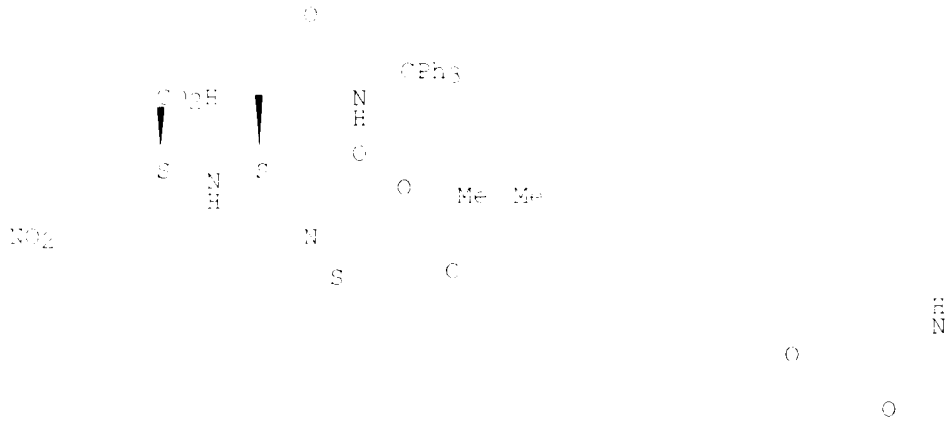


RN 273752-59-3 CAPLUS
CN L-Proline, N2-[(1S)-1-carboxy-2-(2-nitrophenyl)ethyl]-N-(triphenylmethyl)-L-asparaginyl-, 2-[1,1-dimethyl-3-[4-[2-oxo-2-[[3-(triethoxysilyl)propyl]amino]ethoxy]phenyl]propyl] ester (9CI) (CA INDEX NAME)

Absolute stereochemistry.

PAGE 1-A



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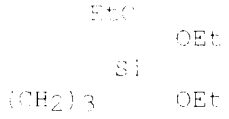
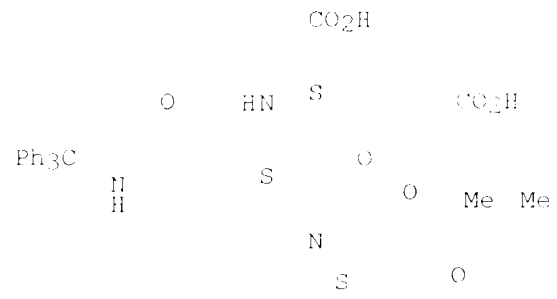


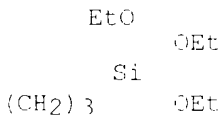
RN 273751-60-6 CAPLUS
CN L-Proline, N2-[(1S)-1,3-dicarboxypropyl]-N-(triphenylmethyl)-L-asparaginyl-, 2-[1,1-dimethyl-3-[4-[2-oxo-2-[[3-(triethoxysilyl)propyl]amino]ethoxy]phenyl]propyl] ester (9CI) (CA INDEX NAME)

Absolute stereochemistry.

PAGE 1-A



PAGE 1-B

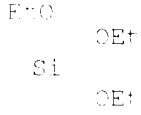


RN 276752-61-7 CAPLUS
CN L-Proline, N-[(1S)-1-carboxy-2-phenylethyl]-O-(1,1-dimethylethyl)-L-seryl-, 2-[1,1-dimethyl-3-[4-[2-oxo-2-[[3-(triethoxysilyl)propyl]amino]ethoxy]phenyl]propyl] ester (9CI) (CA INDEX NAME)

Absolute stereochemistry.

PAGE 1-A

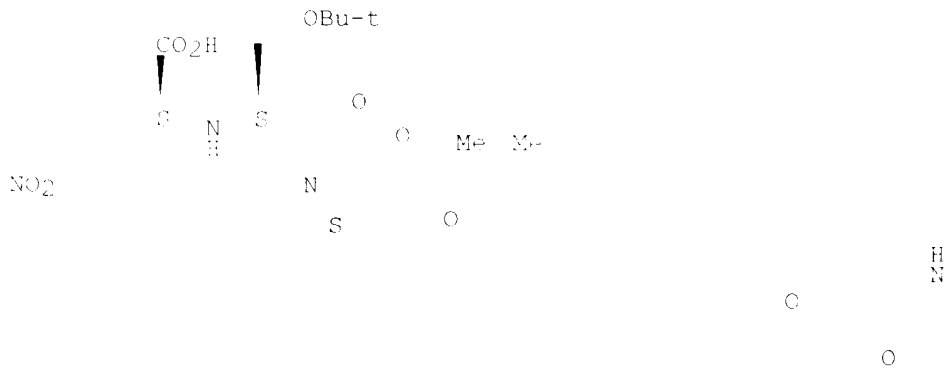
PAGE 1-B



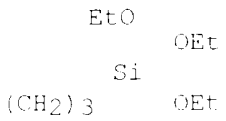
RN 273750-62-8 CAPLUS
CN L-Proline, N-[(1S)-1-carboxy-2-(2-nitrophenyl)ethyl]-O-(1,1-dimethylethyl)-L-seryl-, 2-[1,1-dimethyl-3-[4-[2-oxo-2-[[3-(triethoxysilyl)propyl]amino]ethoxy]phenyl]propyl] ester (9CI) (CA INDEX NAME)

Absolute stereochemistry.

PAGE 1-A



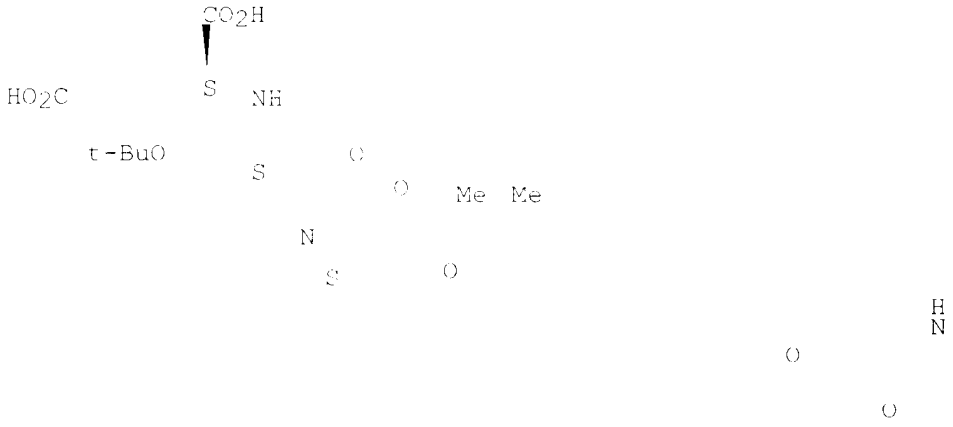
PAGE 1-B



RN 273752-63-9 CAPLUS
CN L-Proline, N-[(1S)-1,3-dicarboxypropyl]-O-(1,1-dimethylethyl)-L-seryl-, 2-[1,1-dimethyl-3-[4-[2-oxo-2-[[3-(triethoxysilyl)propyl]amino]ethoxy]phenyl]propyl] ester (9Cl) (CA INDEX NAME)

Absolute stereochemistry.

PAGE 1-A



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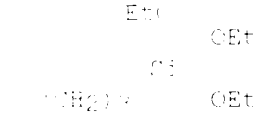


L4 ANSWER 22 OF 41 CAPLUS COPYRIGHT 2002 ACS
ACCESSION NUMBER: 2000:540388 CAPLUS
DOCUMENT NUMBER: 133:90391
TITLE: Photoluminescent semiconductor materials
INVENTOR(S): Armstrong, David W.; Lafrance, Martine L.
PATENT ASSIGNEE(S): Iatrogquest Corporation, Can.
SOURCE: PCT Int. Appl., 37 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

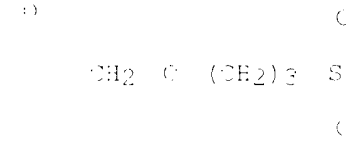
PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2000052338	A1	20000908	WO 1999-CA642	19990709
W: AE, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ, DE, DK, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, UA, UG, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				
RW: GH, GM, KE, LS, MW, SD, SL, SZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG				
AU 9947632	A1	20000921	AU 1999-47632	19990709
EP 1148809	A1	20011024	EP 1999-930939	19990709
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, FI, CY				

PRIORITY APPLN. INFO.: US 1998-9414P P 19980710
WO 1999-CA642 W 19990709

AB Semiconductor materials having a porous texture are described which are modified with a recognition element and produce a photoluminescent response on exposure to electromagnetic radiation. The semiconductor materials may be doped, and they may be supported on a core material. The recognition elements, which can be selected from biomol., org., and inorg. moieties, interact with a target analyte to produce a modulated photoluminescent response, as compared with that of semiconductor materials modified with a recognition element only. The target analyte may be an inorg. or org. compd. or biomol., or an organism or a material derived from or produced by an organism. Methods for detecting an analyte are also described which entail comparing photoluminescence from the materials in a sample to that from the materials in the absence of a sample.

IT **919-30-2DP**, .gamma.-Aminopropyltriethoxysilane, reaction products with oxidized porous silicon and recognition moieties **2530-83-8DP**, 3-Glycidoxypropyltrimethoxysilane, reaction products with oxidized porous silicon and recognition moieties
RL: ARG (Analytical reagent use); SPN (Synthetic preparation); **ANST (Analytical study)**; PREP (Preparation); USES (Uses)
(photoluminescent indicators based on surface-modified porous semiconductors)
RN 919-30-2 CAPLUS
CN 1-Propanamine, 3-(triethoxysilyl)- (9CI) (CA INDEX NAME)

RN 2530-83-8 CAPLUS
CN Silane, trimethoxy[3-(oxiranylmethoxy)propyl]- (9CI) (CA INDEX NAME)



REFERENCE COUNT: 6 THERE ARE 6 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L15 ANSWER 11 OF 41 CAPLUS COPYRIGHT 2002 ACS
ACCESSION NUMBER: 1999:713211 CAPLUS
DOCUMENT NUMBER: 131:353471
TITLE: Chemically modified nucleic acids having enhanced lability towards **solid supports**, and uses thereof in high-density **microarrays**
INVENTOR(S): Bradley, Allan; Cai, Wei Wen
PATENT ASSIGNEE(S): Baylor College of Medicine, USA
SOURCE: PCT Int. Appl., 38 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 3
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 9957323	A1	19991111	WO 1999-US9810	19990504
W: AU, CA, JP				
RW: AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE				
US 6048695	A	20000411	US 1998-71876	19980504
CA 2326654	AA	19991111	CA 1999-2326654	19990504
AU 9937861	A1	19991123	AU 1999-37861	19990504
EP 1075544	A1	20010214	EP 1999-920342	19990504
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, FI				
JP 2002513314	T2	20020514	JP 2000-547274	19990504

PRIORITY APPLN. INFO.: US 1998-71876 A 19980504
WO 1999-US9810 W 19990504

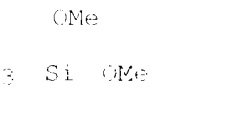
OTHER SOURCE(S): MARPAT 131:332971

AB The invention relates to novel chem. modified nucleic acids with enhanced lability towards solid supports, such as glass. These modified nucleic acids can be readily affixed to solid supports, for instance, a glass surface, without first derivatizing the glass surface. In certain embodiments, the chem. modified nucleic acids of the invention are so modified via (1) compds. having a ring ether and an alkoxysilane group, (2) compds. having an amino group and an alkoxysilane group, (3) halogenated silanes, or (4) amine-contg. silanes reacted with brominated nucleic acids. High-d. microarrays based on these modified nucleic acids as well as methods for prepg. these microarrays are also useful.

IT **919-30-2DP**, 3-Aminopropyltriethoxysilane, bound to a nucleic acid
2530-83-8DP, 3-Glycidoxypropyltrimethoxysilane, bound to a nucleic acid
RL: ARG (Analytical reagent use); BPN (Biosynthetic preparation); **ANST (Analytical study)**; BIOL (Biological study); PREP (Preparation); USES (Uses)
(chem. modified nucleic acids having enhanced lability towards **solid supports**, and uses thereof in high-d. **microarrays**)

RN 919-30-2 CAPLUS
CN 1-Propanamine, 3-(triethoxysilyl)- (9CI) (CA INDEX NAME)

RN 2530-83-8 CAPLUS
CN Silane, trimethoxy[3-(oxiranylmethoxy)propyl]- (9CI) (CA INDEX NAME)



IT **71-30-7, Cytosine**
RL: BOC (Biological occurrence); BSU (Biological study, unclassified); BIOL (Biological study); OCCU (Occurrence)
(modified nucleic acid comprising; chem. modified nucleic acids having enhanced lability towards **solid supports**, and uses thereof in high-d. **microarrays**)

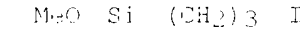
RN 71-30-7 CAPLUS
CN 2(1H)-Pyrimidinone, 4-amino- (9CI) (CA INDEX NAME)

IT **1591-21-5 14867-28-8**, 3-Iodopropyltrimethoxysilane
70892-80-7, 8-Bromooctyltrichlorosilane **82985-34-0**, 8-Bromooctyltrimethoxysilane
RL: ANU (Analytical role, unclassified); BUU (Biological use,

unclassified); **ANST (Analytical study)**; BIOL (Biological study);
USES (Uses)
(use in modifying nucleic acids; chem. modified nucleic acids having
enhanced lability towards **solid supports**, and uses
thereof in high-d. **microarrays**)

RN 1591-31-5 CAPLUS
CN Silane, dichloro(4-chlorobutyl)methyl- (7CI, 8CI, 9CI) (CA INDEX NAME)

FS 14867-28-8 CAPLUS
CN Silane, (3-iodopropyl)trimethoxy- (7CI, 8CI, 9CI) (CA INDEX NAME)



RN 7648-30-7 CAPLUS
CN Silane, (8-bromooctyl)trichloro- (9CI) (CA INDEX NAME)

RN 81985-54-0 CAPLUS
CN Silane, (8-bromooctyl)trimethoxy- (9CI) (CA INDEX NAME)

REFERENCE COUNT: 2 THERE ARE 2 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L45 ANSWER 24 OF 41 CAPLUS COPYRIGHT 2002 ACS
ACCESSION NUMBER: 1999:669330 CAPLUS
DOCUMENT NUMBER: 131:297347
TITLE: Addressable protein arrays on solid supports using capture oligonucleotides and RNA-protein fusions
INVENTOR(S): Kolmelis, Robert G.; Wagner, Richard
PATENT ASSIGNEE(S): Pnylos, Inc., USA
SOURCE: PCT Int. Appl., 57 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English

Searched by Barb O'Bryen, STIC 308-4291

FAMILY ACT. NUM. COUNT: 1
PATENT INFORMATION:

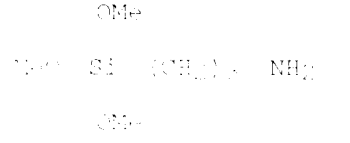
PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 9951773	A1	19991014	WO 1999-US7203	19990331
W:	AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ, DE, DK, EE, ES, FI, GB, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, UA, UG, US, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM			
RW:	GH, GM, KE, LS, MW, SD, SL, SZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG			
CA 2325363	AA	19991014	CA 1999-2325363	19990331
AU 9934636	A1	19991025	AU 1999-34636	19990331
EP 1066396	A1	20010117	EP 1999-916283	19990331
R:	AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, FI			
JP 2002510950	T2	20020409	JP 2000-542464	19990331

PRIORITY APPLN. INFO.: US 1998-56686P P 19980403
WO 1999-US7203 W 19990331

AB Disclosed herein are arrays of nucleic acid-protein fusions which are immobilized to a solid surface through capture probes which include a non-nucleosidic spacer group and an oligonucleotide sequence to which the fusion (such as an RNA-protein fusion) is bound. RNA-protein fusions are synthesized by in vitro translation of mRNA pools contg. a peptide acceptor such as puromycin attached to their 3'-ends, such that a covalent amid bond forms between the 3'-end of the mRNA and the C-terminus of the protein which it encodes. The arrays are prepd. by fixing oligonucleotide sequences, the capture probes, to a support in a defined array; the capture probes are then used to bind nucleic acid-protein fusions through base pairing between the nucleic acid component of the fusion and a complementary capture probe. The result of the binding interactions between the fusions and the capture probes is a defined, addressable array of proteins attached to a solid support. Also disclosed herein are solid supports on which these arrays are immobilized as well as methods for their prepn. and use (for example, for screening for protein-compd. interactions such as protein-therapeutic compd. interactions). Exemplary fusion chips are generated for FLAG, HA11, and c-Myc epitope fusions.

IT **13822-56-5**
RL: DEV (Device component use); RCT (Reactant); RACT (Reactant or reagent); USES (Uses)
(addressable protein arrays on **solid supports** using capture oligonucleotides and RNA-protein fusions)

RN 13822-56-5 CAPLUS
CN 1-Propanamine, 3-(trimethoxysilyl)- (9CI) (CA INDEX NAME)



REFERENCE COUNT: 7 THERE ARE 7 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

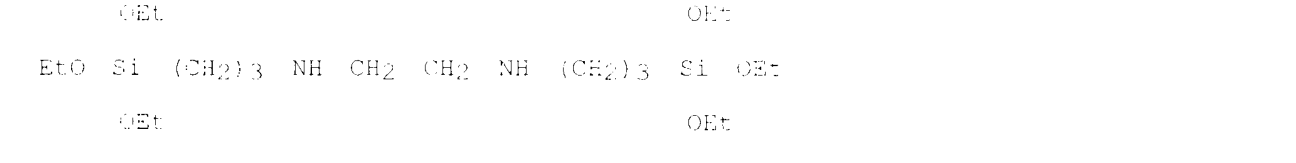
L4 ANSWER 25 OF 41 CAPLUS COPYRIGHT 2002 ACS
ACCESSION NUMBER: 1999:458939 CAPLUS
DOCUMENT NUMBER: 131:164790

TITLE: Preparation and evaluation of p-tert-butylcalix[4]arene-bonded silica stationary phases for high-performance liquid chromatography
AUTHOR(S): Xiao, Xiang-Zhu; Feng, Yu-Qi; Da, Zhi-Lu; Zhang, Yan
CORPORATE SOURCE: Dep. Chemistry, Wuhan Univ., Wuhan, 430072, Peop. Rep. China
SOURCE: Chromatographia (1999), 49(11/12), 643-648
CODEN: CHRGB7; ISSN: 0009-5893
PUBLISHER: Friedrich Vieweg & Sohn Verlagsgesellschaft mbH
DOCUMENT TYPE: Journal
LANGUAGE: English

AB A method is proposed for prepn. of a 4-tert-butylcalix[4]arene-bonded silica stationary phase. Chem. modified 4-tert-butylcalix[4]arene is attached to silica gel by using [.gamma.-(ethylenediamino)propyl]triethoxy silane as coupling reagent. The bonded phase was characterized by 29Si and 13C cross polarization/magic angle spinning solid-state NMR. The retention behavior of polycyclic arom. hydrocarbons (PAHs), nucleosides, and nucleobases was investigated on the bonded phase in the reversed-phase mode.

IT **71-30-7**, **Cytosine**
RL: ANT (Analyte); ANST (Analytical study)
(prepn. and evaluation of tert-butylcalixarene-bonded silica stationary phases for HPLC)
RN 71-30-7 CAPLUS
CN 2(1H)-Pyrimidinone, 4-amino- (9CI) (CA INDEX NAME)

IT **30858-91-4DP**, [.gamma.-(Ethylenediamino)propyl]triethoxysilane, reaction product with silica gel and tert-butyl[(chlorocarbonyl)methoxy]hydroxycalixarene
RL: ANU (Analytical role, unclassified); SPN (Synthetic preparation); **ANST (Analytical study)**; PREP (Preparation)
(prepn. and evaluation of tert-butylcalixarene-bonded silica stationary phases for HPLC)
RN 30858-91-4 CAPLUS
CN 1,2-Ethanediamine, N,N'-bis[3-(triethoxysilyl propyl]- (9CI) (CA INDEX NAME



REFERENCE COUNT: 29 THERE ARE 29 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L43 ANSWER 16 OF 41 CAPLUS COPYRIGHT 2002 ACS
ACCESSION NUMBER: 1999:428814 CAPLUS
DOCUMENT NUMBER: 131:211144
TITLE: Atomic force microscopy imaging of DNA covalently immobilized on a functionalized mica substrate
AUTHOR(S): Shlyakhtenko, Luda S.; Gall, Alexander A.; Weimer, Jeffrey J.; Hawn, David D.; Lyubchenko, Yuri L.

Searched by Barb O'Bryen, STIC 308-4291

CORPORATE SOURCE: Department of Microbiology, Arizona State University, Tempe, AZ, 85287-2701, USA
SOURCE: Biophysical Journal (1999), 77(1), 568-576
CODEN: BIOJAU; ISSN: 0006-3495
PUBLISHER: Biophysical Society
DOCUMENT TYPE: Journal
LANGUAGE: English

AB A procedure for covalent binding of DNA to a functionalized mica substrate is described. The approach is based on photochem. crosslinking of DNA to immobilized psoralen derivs. A tetrafluorphenyl (TFP) ester of tri-Me psoralen (trioxalen) was synthesized, and the procedure to immobilize it onto a functionalized aminopropyl mica surface (AP-mica) was developed. DNA mols. were cross-linked to trioxalen moieties by UV irradn. of complexes. The steps of the sample prepn. procedure were analyzed with XPS (XPS). Results from XPS show that an AP-mica surface can be formed by vapor phase deposition of silane and that this surface can be derivatized with trioxalen. The derivatized surface is capable of binding of DNA mols. such that, after UV crosslinking, they withstand a thorough rinsing with SDS. Observations with at. force microscopy showed that derivatized surfaces remain smooth, so DNA mols. are easily visualized. Linear and circular DNA mols. were photochem. immobilized on the surface. The mols. are distributed over the surface uniformly, indicating rather even modification of AP-mica with trioxalen. Generally, the shapes of supercoiled mols. electrostatically immobilized on AP-mica and those photocross-linked on trioxalen-functionalized surfaces remain quite similar. This suggests that UV crosslinking does not induce formation of a noticeable no. of single-stranded breaks in DNA mols.

IT **919-30-2**
RL: ARU (Analytical role, unclassified); **ANST (Analytical study)**
(mica surface coated with,; imaging of DNA by at. force microscopy based on covalent photochem. crosslinking of DNA to trioxalen immobilized onto mica surface)

RN 919-30-2 CAPLUS
CN 1-Propanamine, 3-(triethoxysilyl)- (9CI) (CA INDEX NAME)

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      OEt
      |
EtO - Si - (CH2)3 - NH2
      |
      OEt
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REFERENCE COUNT: 44 THERE ARE 44 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

ACCESSION NUMBER: 1999:111258 CAPLUS
DOCUMENT NUMBER: 130:143546
TITLE: Novel methods of attaching probes to a solid support and uses thereof
INVENTOR(S): Okamoto, Tadashi; Yamamoto, Nobuko; Suzuki, Tomohiro
PATENT ASSIGNEE(S): Canon Kabushiki Kaisha, Japan
SOURCE: Eur. Pat. Appl., 43 pp.
CODEN: EPXXDW
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
EP [illegible]	A2	19990203	EP 1998-306107	19980731

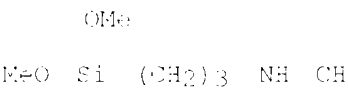
EP 905282 A2 19990331
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO
JP 11137900 A2 19990525 JP 1998-209923 19980724
JP 2001066305 A2 20010316 JP 2000-232206 19980724
PRIORITY APPLN. INFO.: JP 1997-207837 A 19970801
JP 1997-287046 A 19971020
JP 1998-209923 A 19980724

OTHER SOURCE(S): MARPAT 130:149846

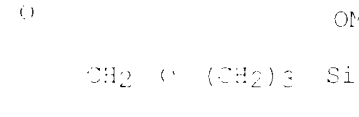
AB Provided is a method of attaching probes to a solid support in a markedly high d. and efficiency. An extremely small amt. of probe is contained within a liq., and droplets of the liq. are delivered to the solid support via an ink jet ejection method, thereby forming spots which contain the probe. Since one or more substances can bind specifically to target probes and said probes are arranged in a large no. on a solid support, the method can be used to swiftly and accurately det. a base sequence of a nucleic acid or detect a target nucleic acid in a sample.

IT **1760-24-3**, KBM603 **2530-83-8**, KBM403
RL: BCT (Reactant); RACT (Reactant or reagent)
(novel methods of attaching probes to a **solid support** and uses thereof)

RN 1760-24-3 CAPLUS
CN 1,2-Ethanediamine, N-[3-(trimethoxysilyl)propyl]- (9CI) (CA INDEX NAME)



RN 2530-83-8 CAPLUS
CN Silane, trimethoxy[3-(oxiranylmethoxy)propyl]- (9CI) (CA INDEX NAME)



L45 ANSWER 26 OF 41 CAPLUS COPYRIGHT 2002 ACS
ACCESSION NUMBER: 1999:96153 CAPLUS
DOCUMENT NUMBER: 130:149846
TITLE: Novel polyethyleneimine-based biomolecule arrays
INVENTOR(S): Van Ness, Jeffrey; Tabone, John C.; Moynihan, Kristen
PATENT ASSIGNEE(S): Rapigene, Inc., USA
SOURCE: PCT Int. Appl., 50 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 9904896	A1	19990204	WO 1998-US15246	19980721

W: AL, AM, AT, AU, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ, DE, DK, EE, ES, FI, GB, GE, GH, HU, IL, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT,

BG, BH, SD, SE, SG, SI, SK, TJ, TM, TR, TT, UA, UG, US, UZ, VN,
YU, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM
RW: GH, GM, KE, LS, MW, SD, SZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES,
FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI,
CM, GA, GN, GW, ML, MR, NE, SN, TD, TG

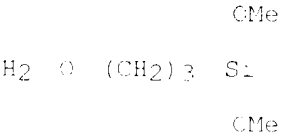
AU 9[illegible]5825 A1 19990216 AU 1998-95925 19980721
AT [illegible]46 B2 20011215
EP [illegible]47 A1 20000112 EP 1998-937016 19980721
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT,
IE, FI
JP 2[illegible]6 A 20000121 US 1997-120396 19970721
JP 2001[illegible]72T T2 20010807 JP 2000-503933 19980721
PRIORITY APPLN. INFO.: US 1997-53352P P 19970722
WO 1998-US15246 W 19980721

AB An array of biomols. is formed from a flat solid substrate, whereby said surface is covered with a layer of polyethylenimine (PEI) and this layer is divided among a plurality of discrete first regions abutted and surrounded by a contiguous second region. The process includes the step of depositing a biomol. into the first regions while maintaining the second region substantially free of the biomol.

IT **2530-83-8**, 3-(2,3-Epoxypropoxy)propyltrimethoxysilane
RL: ARG (Analytical role, unclassified); RCT (Reactant); **ANST (Analytical study)**; EACT (Reactant or reagent)
use as bifunctional coupling agent; novel polyethylenimine-based biomol. arrays)

RN 2530-83-8 CAPLUS

CN Silane, trimethoxy[3-(oxiranylmethoxy)propyl]- (9CI) (CA INDEX NAME)



REFERENCE COUNT: 9 THERE ARE 9 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L4 ANSWER 29 OF 41 CAPLUS COPYRIGHT 2002 ACS
ACCESSION NUMBER: 1997:258461 CAPLUS
DOCUMENT NUMBER: 127:13891
TITLE: Covalent attachment of hybridizable oligonucleotides to glass supports
AUTHOR(S): Joos, Beda; Kuster, Herbert; Cone, Richard
CORPORATE SOURCE: Div. Infectious Diseases, Univ. Hospital, Zurich, CH-8091, Switz.
SOURCE: Analytical Biochemistry (1997), 247(1), 96-101
CODEN: ANBCA2; ISSN: 0003-2697
PUBLISHER: Academic
DOCUMENT TYPE: Journal
LANGUAGE: English

AB A simple, rapid, and efficient method for the covalent binding of oligonucleotides to solid glass supports was developed. Glass slides were derivatized with aminophenyl or aminopropyl silanes and 5'-succinylated target oligonucleotides were attached by carbodiimide-mediated coupling. Approx. 40-50% of the applied target oligonucleotides covalently bound to the derivatized glass. Hybridizations with radioactively labeled oligonucleotide probes showed that up to 90% of the attached oligonucleotides were available for hybridization. This system can conveniently be applied for studies on hybridization and detection of nucleic acids.

IT **919-30-2DP**, 3-Aminopropyltriethoxysilane, reaction products with

glass slides
RL: ARU (Analytical role, unclassified); DEV (Device component use); SPN (Synthetic preparation); **ANST (Analytical study)**; PREP (Preparation); USES (Uses)
(trivalent attachment of hybridizable oligonucleotides to glass supports)
RN 919-30-2 CAPLUS
CN 1-Propanamine, 3-(triethoxysilyl)- (9CI) (CA INDEX NAME)

OEt

EtO Si $(CH_2)_3$ NH_2

OEt

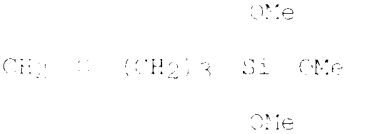
L45 ANSWER 30 OF 41 CAPLUS COPYRIGHT 2002 ACS
ACCESSION NUMBER: 1996:637814 CAPLUS
DOCUMENT NUMBER: 125:30158
TITLE: Carbazine dyes and derivatives for pH measurement
INVENTOR(S): Smith, Roger E.
PATENT ASSIGNEE(S): Ocean Medical Products, Inc., USA
SOURCE: U.S., 23 pp.
CODEN: USXXAM
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 5576214	A	19961119	US 1995-429622	19950427
CA 2219117	AA	19961031	CA 1996-2219117	19960426
WO 9634274	A1	19961031	WO 1996-US5777	19960426
W: AL, AM, AT, AU, AZ, BB, BG, BR, BY, CA, CH, CN, CZ, DE, DK, EE, ES, FI, GB, GE, HU, IS, JP, KE, KG, KP, KR, KZ, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI				
RW: BW, LS, MW, SD, SZ, UG, AT, BE, CH, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN				
AU 9655787	A1	19961118	AU 1996-55787	19960426
AU 699979	B2	19981022		
GB 2314620	A1	19980107	GB 1997-22470	19960426
GB 2314620	B2	19980916		
DE 19681363	T	19980402	DE 1996-19681363	19960426
DE 19681363	C2	20020711		

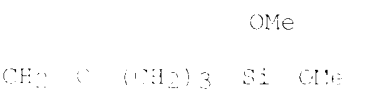
PRIORITY APPLN. INFO.: US 1995-429622 A 19950427
WO 1996-US5777 W 19960426

AB A compn. for detg. pH of a soln. comprises a fluorescent carbazine dye covalently bound to a solid support. A method of detg. pH of a soln. comprises placing the compn. in the soln., contacting the compn. with a selected wavelength of light to excite fluorescence by the carbazine dye, measuring intensities of the fluorescence at two selected wavelengths, calcg. a ratio of fluorescence intensities at the two selected wavelengths, and correlating the ratio with a predetd. relation of such ratios to pH. A fiber optic system for measuring pH of a soln. with the carbazine-dye-contg. compn. is also disclosed.
IT **2530-83-8**
RL: RCT (Reactant); RACT (Reactant or reagent)
(propn. of carbazine dyes and derivs. bonded to **solid supports** for pH measurement

RN 2530-83-8 CAPLUS
CN Silane, trimethoxy[3-(oxiranylmethoxy)propyl]- (9CI) (CA INDEX NAME)



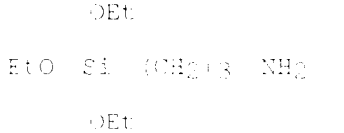
L4 ANSWER 31 OF 41 CAPLUS COPYRIGHT 2002 ACS
ACCESSION NUMBER: 1991:461921 CAPLUS
DOCUMENT NUMBER: 115:61921
TITLE: Oligonucleotide hybridizations on glass supports: a novel linker for oligonucleotide synthesis and hybridization properties of oligonucleotides synthesized in situ
AUTHOR(S): Maskos, Uwe; Southern, Edwin M.
CORPORATE SOURCE: Dep. Biochem., Univ. Oxford, Oxford, OX1 3QU, UK
SOURCE: Nucleic Acids Res. (1992), 20(7), 1679-84
CODEN: NARHAD; ISSN: 0305-1048
DOCUMENT TYPE: Journal
LANGUAGE: English
AB A novel linker for the synthesis of oligonucleotides on a glass support is described. Oligonucleotides synthesized on the support remain tethered to the support after ammonia treatment and are shown to take part in sequence-specific hybridization reactions. These hybridizations were carried out with oligonucleotides synthesized on ballotini solid sphere glass beads and microscope slides. The linker has a hexaethylene glycol spacer, bound to the glass via a glycidoxypropyl silane, terminating in a primary hydroxyl group that serves as starting point for automated or manual oligonucleotide synthesis.
IT 2530-83-8
RL: USES (Uses)
(glass support immobilization of, reaction with diols after, for synthesis of **solid support**-bound linker for oligonucleotide synthesis)
RN 2530-83-8 CAPLUS
CN Silane, trimethoxy[3-(oxiranylmethoxy)propyl]- (9CI) (CA INDEX NAME)



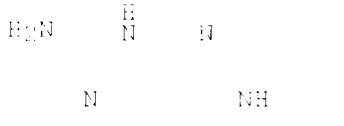
L4 ANSWER 32 OF 41 CAPLUS COPYRIGHT 2002 ACS
ACCESSION NUMBER: 1991:207102 CAPLUS
DOCUMENT NUMBER: 114:207102
TITLE: Thymine bonded-stationary phase for high performance liquid chromatography
AUTHOR(S): Shi, Tao; Wang, Qinwei; Shen, Lianzhu; Lu, Chengxun; Sun, Yiliang
CORPORATE SOURCE: Dep. Chem., Peking Univ., Beijing, 100871, Peop. Rep. China
SOURCE: Chin. Chem. Lett. (1990), 1(7), 343-6
CODEN: CCLEE7
DOCUMENT TYPE: Journal

Searched by Barb O'Bryen, STIC 308-4291

LANGUAGE: English
AB A new type of HPLC stationary phase contg. thymine deriv. was successfully prepd. It was found to give selective sepn. of nucleic acid bases and several purine derivs., such as caffeine and theophylline. The retention behavior and elution order of the solutes were interpreted in terms of mol. structure.
IT **919-30-2DP**, reaction products with silica gel and subsequently with thymineylpropionic acid-hydroxynorbornenedicarboximide reaction product
RL: SPN (Synthetic preparation ; **ANST (Analytical study)**; PREP (Preparation)
(prepn. and use of, as stationary phase for sepn. of nucleic acid bases)
RN 919-30-2 CAPLUS
CN 1-Propanamine, 3-(triethoxysilyl)- (9CI) (CA INDEX NAME)



IT **73-40-5, Guanine**
RL: ANST (Analytical study)
(sepn. of, from nucleic acid bases by HPLC on thymine bonded silica gel)
RN 73-40-5 CAPLUS
CN 6H-Purin-6-one, 2-amino-1,7-dihydro- (9CI) (CA INDEX NAME)



L45 ANSWER 33 OF 41 CAPLUS COPYRIGHT 2002 ACS
ACCESSION NUMBER: 1989:590393 CAPLUS
DOCUMENT NUMBER: 111:190933
TITLE: Silica gel or metal oxide chromatographic material and its use
INVENTOR(S): Hammen, Richard Frederick
PATENT ASSIGNEE(S): Chromatochem, Inc., USA
SOURCE: Eur. Pat. Appl., 35 pp.
CODEN: EPXXDW
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
EP 295073	A2	19881214	EP 1988-305217	19880608
EP 295073	A3	19901219		
EP 295073	B1	19970312		
R: AT, CH, DE, FR, GB, LI, NL, SE				
CA 1320718	A1	19930727	CA 1988-568784	19880607

JP [illegible]	A2	19880616	JP 1989-141491	19880608
JP [illegible]	B4	19950726		
AT [illegible]	E	19970915	AT 1989-305217	19890608
US [illegible]	A	19930831	US 1991-662393	19910402
US [illegible]	B1	20011024	US 1993-26145[illegible]	19930305

PRIORITY APPLN. INFO.:

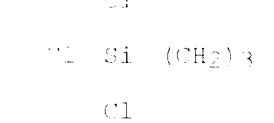
US 1987-53985	A	19870608
US 1988-187765	A	19880427
US 1990-485866	B1	19900227
US 1991-662393	A3	19910402
US 1993-70154	B1	19930601
US 1995-397414	B1	19950301
US 1996-714523	B1	19960916
US 1997-949446	B1	19971014

AB Chromatog. materials (SEX, SEXYL, and SEXY' [S = substantially nonincompressible solid support; B = binding group; X = substantially nonionic hydrophilic spacer; Y = coupling group; Y' = activated coupling group; L = affinity ligand] are provided. The solid support is silica gel or other metal oxide or ceramic. A process for chromatog. sepn. and detection of .gtoreq.1 substance with the title material is also provided. The chromatog. material is substantially free of nonspecific adsorption and is stable at high pH. PEG 600-propylsilica (4' .mu.m) was prepd. and activated with carbonyldiimidazole. The activated silica gel was reacted 1st with hydrazine, then with periodate-oxidized ovalbumin, and packed into a HPLC column. Serum from a rabbit immunized against ovalbumin was loaded onto the column. Following removal of nonbound serum components by washing, IgG was eluted with 2% HOAc contg. 0.1M NaCl. Identify of the eluted, purified IgG was confirmed by SDS-PAGE and Western blot anal.

IT **13883-39-1D**, reaction products with silica gel
RL: **ANST (Analytical study)**
(in prepn. of stationary phase for affinity chromatog., pH stability in relation to)

RN 13883-39-1 CAPLUS

CN Silane, (3-bromopropyl)trichloro- (6CI, 8CI, 9CI) (CA INDEX NAME)



Cl

Cl Si $(CH_2)_3$ Br

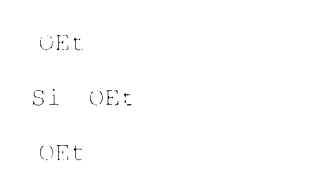
Cl

L43 ANSWER 34 OF 41 CAPLUS COPYRIGHT 2002 ACS
ACCESSION NUMBER: 1989:209929 CAPLUS
DOCUMENT NUMBER: 110:209929
TITLE: Manufacture of silanized hydroxyethyl methacrylate-ethylene glycol dimethacrylate copolymers and their use as solid supports for affinity chromatographic methods for use in medicine and pharmaceutical industry
INVENTOR(S): Schoessler, Werner; Coupek, Jiri; Hiepe, Falk
PATENT ASSIGNEE(S): Akademie der Wissenschaften der DDR, Ger. Dem. Rep.
SOURCE: Ger. (East), 4 pp.
CODEN: GEXXA8
DOCUMENT TYPE: Patent
LANGUAGE: German
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE

PI EP 256720 A1 19880518 PI EP 1986-286893 19860129
OTHER SOURCE(S): MARPAT 110:208929
AB A process for the manuf. of chem. activated hydroxyethyl methacrylate-ethylene glycol dimethacrylate copolymer (I) in the form of shaped objects comprises the treatment of I with organosilanes (X(R1)m)nSiR4-n (X = amino, CO, CO2, isothiocyano, epoxy, diazo, NCO, NO, sulfhydryl, halocarbonyl; R1 = alkyl, alkylphenyl, Ph; R = alkoxy, phenoxy, halo, m = 0-20, n = 1-3) and optionally with hetero- or homofunctional reagents. Macroporous I (Separon Hema-1000; particle size 15-25 .mu.m; inner surface 70 m2/g; mol. wt. exclusion 2 .times. 106) (5 g) was incubated with 10% aminopropyltriethoxysilane (HB 1114) in 1:1 EtOH-H2O at pH 2.5 for 6 h at 60.degree., washed with EtOH-H2O and 0.1M phosphate buffer at pH 6.8, and the resulting gel was incubated with 5% glutardialdehyde for 2 h at 39.degree. and subsequently washed with phosphate buffer. The activated gel was incubated with human IgG (18.6 mg IgG/ml 0.1M phosphate buffer) for 2 h at 37.degree. and overnight at 4.degree.; 36.7 mg IgG/g (>95%) were bound on activated I.
IT **919-30-2DP**, reaction products with Separon HEMA and glutaraldehyde
2602-34-8DP, reaction products with Separon HEMA and (aminopropyl)triethoxysilane and glutaraldehyde
RL: PREP (Preparation)
(manuf. of, as **solid support** for affinity chromatog.)
RN 919-30-2 CAPLUS
CN 1-Propanamine, 3-(triethoxysilyl)- (9CI) (CA INDEX NAME)

RN 2602-34-8 CAPLUS
CN Silane, triethoxy[3-(oxiranylmethoxy)propyl]- (8CI) (CA INDEX NAME)

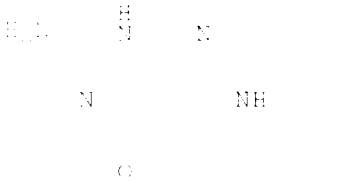


L45 ANSWER 35 OF 41 CAPLUS COPYRIGHT 2002 ACS
ACCESSION NUMBER: 1989:150718 CAPLUS
DOCUMENT NUMBER: 110:150718
TITLE: Modification of silufol plate silica gel by amino groups of aminopropyltriethoxysilane and their use for separation of nucleic acids components
AUTHOR(S): Karpova, S. F.; Pupkova, V. I.; Khripin, Yu. L.
CORPORATE SOURCE: Spil.-Res. Design-Technol. Inst. Biol. Active Subst., Berdsk, USSR
SOURCE: Zh. Anal. Khim. (1989), 44(1), 127-30
CODEN: ZAKHA8; ISSN: 0044-4502
DOCUMENT TYPE: Journal
LANGUAGE: Russian
AB A simple method for modifying Silufol plate silica gel by amino groups of aminopropyltriethoxysilane involves submerging of the corn plates in 1-2% soln. of Me ethoxysilane in EtOH for 50-60 min. The plates are dried for 25-30 min at room temp. and washed once with EtOH. The sepn. selectivity

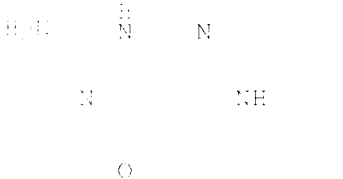
of these plates (for sugars, guanosine, and its phosphates) is not inferior when compares with Merck com. plates NH_2-F254. Ribonucleotides, deoxyribonucleotides and impurities of nucleoside N bases and their phosphates were sepd. by a mobile phase contg. AcOH and EtOH.

IT **73-40-5, Guanine** 73-40-5D, Guanine,
nucleotides
RL: ANST (Analytical study)
sepn. of, by TLC, aminopropyltrimethoxysilane-modified silica gel for)

RN 73-40-5 CAPLUS
CN 6H-Purin-6-one, 2-amino-1,7-dihydro- (9CI) (CA INDEX NAME)

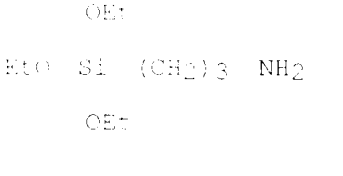


RN 73-40-5 CAPLUS
CN 6H-Purin-6-one, 2-amino-1,7-dihydro- (9CI) (CA INDEX NAME)



IT **919-30-2**, Aminopropyltriethoxysilane
RL: **ANST (Analytical study)**
silica gel-modified with, for nucleic acid component sepn., by TLC)

RN 919-30-2 CAPLUS
CN 1-Propanamine, 3-(triethoxysilyl)- (9CI) (CA INDEX NAME)

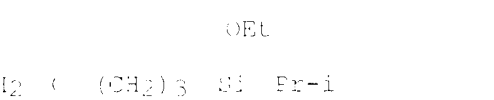


L47 ANSWER 36 OF 41 CAPLUS COPYRIGHT 2002 ACS
ACCESSION NUMBER: 1989:17873 CAPLUS
DOCUMENT NUMBER: 110:17873
TITLE: Synthesis and characterization of highly stable bonded phases for high-performance liquid chromatography column packings
AUTHOR(S): Kirkland, J. J.; Glajch, J. L.; Farlee, R. D.
CORPORATE SOURCE: Exp. Stn., E. I. du Pont de Nemours and Co., Wilmington, DE, 19898, USA
SOURCE: Anal. Chem. (1989), 61(1), 2-11
CODEN: ANCHAM; ISSN: 0003-2700
DOCUMENT TYPE: Journal
LANGUAGE: English
AB Two new classes of silane-modified silicas were synthesized and

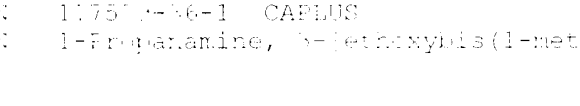
characterized by chromatog. and spectroscopic techniques. These new bonded phases are significantly more stable toward hydrolysis than previous bonded-phase silicas; retention and column efficiency are comparable. The first type uses bifunctional (or "bidentate") silanes contg. one reactive atom on each of two silicon atoms that connect through a bridging group such as -O- or -(CH2)n-. The second type uses a monofunctional silane with at least two bulky groups (e.g., isopropyl) on the silane silicon atom. These bulky groups provide steric protection to the Si-O-Si bond formed between the silane and the surface of the silica. The new bonded-phase silicas exhibit highly reproducible gradient elution high-performance seprns. of peptides and proteins with low-pH mobile phases.

IT **116698-58-9DP**, reaction products with silica gels
117559-36-1DP, reaction products with silica gels
RL: **ANST (Analytical study)**; PREP (Preparation)
(prepn. and characterization and evaluation of, as stationary phases in HPLC for anal. with low-pH mobile phases)

RN 116698-58-9 CAPLUS
CN Silane, ethoxybis(1-methylethyl)[3-(oxiranylmethoxy)propyl]- (9CI) (CA INDEX NAME)



RN 117559-36-1 CAPLUS
CN 1-Propanamine, 3-[ethoxybis(1-methylethyl)silyl]- (9CI) (CA INDEX NAME)



L45 ANSWER 37 OF 41 CAPLUS COPYRIGHT 2002 ACS
ACCESSION NUMBER: 1988:403469 CAPLUS
DOCUMENT NUMBER: 109:3469
TITLE: Multicoated ferromagnetic chromium dioxide particles for use as **solid support** in heterogeneous immunoassays and bioaffinity separations
INVENTOR(S): Lau, Hon Peng Phillip; Yang, Esther Koo; Jacobson, Howard Wayne
PATENT ASSIGNEE(S): du Pont de Nemours, E. I., and Co., USA
SOURCE: Eur. Pat. Appl., 26 pp.
CODEN: EPXXDW
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
EP 274770	A1	19880720	EP 1987-103692	19870314
EP 274770	B1	19920108		
R: AT, BE, CH, DE, ES, FR, GB, GR, IT, LI, LU, NL, SE				
CA 1269673	A1	19900605	CA 1987-531855	19870312

AT [illegible]	E	19920213	AT 1987-103692	19870414
ES [illegible]	T3	19930201	ES 1987-103692	19870414
JP [illegible]	A2	19871008	JP 1987-94117	19870414
JP [illegible]	B4	19921015		
DK 87[illegible]1367	A	19870919	DK 1987-1367	19870317

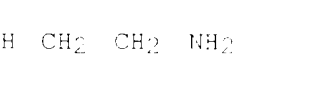
PRIORITY APPLN. INFO.: US 1986-841107 19860319
EP 1987-103692 19870414

AB CrO2 particles are modified to have desirable characteristics as solid support materials for immunoassays or for bioaffinity sepns. The particles are surface reduced and coated with protective silica and silane layers. Such treatment prevents hydrolytic degrdn. of the particles, and provides a functionalized coat. CrO2 particles were surface reduced in an aq. soln. of NaHSO3, then treated with NaAlO2 and Na2SiO3 soln. contg. Na borate, pH 8. The particles were coated with 3-aminopropyltriethoxysilane. The chromate leaching test of these particles gave an absorbance of 0.02at 372 nm. The particle settling time was 8 min. In an immunoassay for the detn. of TSH, a serum sample was mixed with an enzyme-labeled anti-TSH .beta.-subunit monoclonal antibody (MAb), then mixed with a slurry of particles carrying anti-TSH .alpha.-subunit MAbs. The immune complexes formed were removed magnetically. The complexes were resuspended in a substrate soln. and incubated, the absorbance of the quenched soln. was read. Human serum contg. 0, 5, 25, and 5[illegible] .mu.IU TSH/mL gave an absorbance of 0.1138, 0.1829, 0.4838, and 0.794[illegible], resp.

IT **919-30-2**, 3-Aminopropyltriethoxysilane **5089-72-5**
RL: **ANST (Analytical study)**
(surface-reduced magnetic chromium dioxide particles coated with silica and, for immunoassays and bioaffinity sepns.)

RN 919-30-2 CAPLUS
CN 1-Propanamine, 3-(triethoxysilyl)- (9CI) (CA INDEX NAME)

RN 5089-72-5 CAPLUS
CN 1,2-Ethanediamine, N-[3-(triethoxysilyl)propyl]- (9CI) (CA INDEX NAME)



L4 ANSWER 38 OF 41 CAPLUS COPYRIGHT 2001 ACS
ACCESSION NUMBER: 1988:403447 CAPLUS
DOCUMENT NUMBER: 109:3447
TITLE: Analytical method and kit for detecting and measuring specifically sequenced nucleic acid using fluorescent intercalation compounds and waveguides as **solid support**
INVENTOR(S): Sutherland, Ranald Macdonald; Bromley, Peter; Gentile, Bernard
PATENT ASSIGNEE(S): Battelle Memorial Institute, Switz.
SOURCE: Eur. Pat. Appl., 30 pp.
CODEN: EPXXDW

Searched by Barb O'Bryen, STIC 308-4291

DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

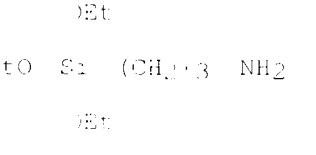
PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
EP [illegible]	A1	[illegible]	EP 1987-[illegible]	19870430
R: BE, CH, DE, ES, FR, GB, IT, LI, NL, SE				
WO 8706956	A1	19871119	WO 1987-EP234	19870502
W: AU, BR, DK, FI, JP, NO, US				
AU 8775838	A1	19871211	AU 1987-75838	19870502
JP 01500221	T2	19890126	JP 1987-503871	19870502
FI 8705770	A	19871230	FI 1987-5770	19871230
NO 8800010	A	19880210	NO 1988-10	19880104
DK 8800036	A	19880217	DK 1988-36	19880104

PRIORITY APPLN. INFO.: EP 1986-810201 19860502
WO 1987-EP234 19870502

AB A waveguide coated with single-stranded probe nucleic acids and carrying an internally reflected wave signal is contacted with an analyte soln. comprg. denatured test DNA or RNA and fluorescent marker dye. Analyte nucleic acid with sequences homologous to that of the probe polynucleotide will hybridize therewith with concomitant binding of the fluorescent dye to the resultant duplex structures. Fluorescence resulting from the interaction of the wave signal at the waveguide/analyte interface with the signal generating centers created within the space probed by the evanescent component of the wave signal is detected and provides useful information on said sequences homologous to that of the probe nucleic acids. A plate waveguide with poly(dA) affixed (prepn. described for oligo dC on aminopropyl glass plate) was affixed into a flow cell and a base-line signal was obtained with buffer in the cell. Both ethidium bromide and poly-dT were mixed and injected into the flow cell and the reaction was monitored. In a control, only ethidium bromide was added. The monitoring reaction was effectively immediate and only specific interaction between double-stranded DNA was detected.

IT **919-30-2**, 3-Aminopropyltriethoxysilane
RL: **ANST (Analytical study)**
(grafting of, on waveguide, for nucleic acid attachment, nucleic acid detn. in relation to)

RN 919-30-2 CAPLUS
CN 1-Propanamine, 3-(triethoxysilyl)- (9CI) (CA INDEX NAME)



L45 ANSWER 38 OF 41 CAPLUS COPYRIGHT 2002 ACS
ACCESSION NUMBER: 1988:34236 CAPLUS
DOCUMENT NUMBER: 108:34236
TITLE: Polymer-modified silica-based supports for gel permeation chromatography of biopolymers
AUTHOR(S): Ivanov, A. E.; Zigis, L.; Turchinskii, M. F.; Kop'ev, V. P.; Reshetov, P. D.; Zubov, V. P.; Kastrikina, L. N.; Lonskaya, N. I.
CORPORATE SOURCE: Inst. Biorg. Khim. im. Shemyakina, Moscow, USSR
SOURCE: Mol. Genet., Mikrobiol. Virusol. (1987), (11), 39-40, 1 plate
CODEN: MGMVDU

Searched by Barb O'Bryen, STIC 308-4291

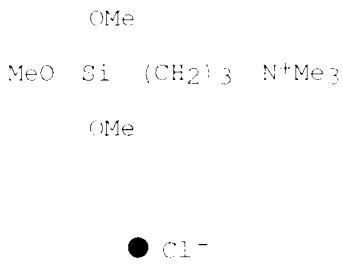
DOCUMENT TYPE: Journal
LANGUAGE: Russian
AB Macroporous glass treated with .gamma.-aminopropyltriethyoxysilane and then with 1:1 copolymer of N-vinylpyrrolidone and acryloyl chloride was prepd. and used for sepn. of influenza, Sendai, etc. viruses. The sorbent possesses low absorption activity but had higher stability and better hydrodynamic properties than commonly used sorbents (Sepharose 4B, porous glass). The sorbent can be used repeatedly without regeneration (>20 times) and could be regenerated by washing with 1:1 iso-PrOH-H2O, when the sorptive properties are totally restored. The inert sorbent was also used for the sepn. of Escherichia coli tRNA from 70 S ribosomes.
IT **919-30-2**, .gamma.-Aminopropyltriethoxysilane
RL: **ANST (Analytical study)**
(glass treatment with, copolymer modification after, for gel chromatog. support prepn.)
RN 919-30-2 CAPLUS
CN 1-Propanamine, 3-(triethoxysilyl)- (9CI) (CA INDEX NAME)

OEt

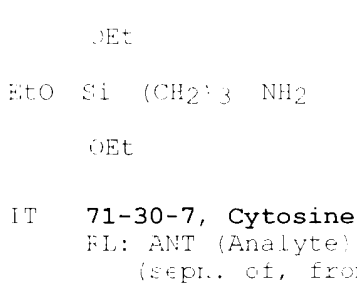
H2N Si (CH2)3

OEt

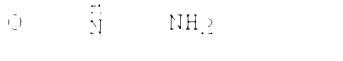
L4 ANSWER 40 OF 41 CAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 1988:31015 CAPLUS
DOCUMENT NUMBER: 108:31015
TITLE: Alkoxy silanes for the preparation of silica based stationary phases with bonded polar functional groups
AUTHOR(S): Engelhardt, Heinz; Orth, Peter
CORPORATE SOURCE: Angew. Phys. Chem., Univ. Saarlandes, Saarbruecken, Fed. Rep. Ger.
SOURCE: J. Liq. Chromatogr. (1987), 10(8-9), 1999-2022
CODEN: JLCHD8; ISSN: 0148-3919
DOCUMENT TYPE: Journal
LANGUAGE: English
AB For prepn. of polar bonded phases with alkoxysilanes, an activator and a catalyst are required to achieve surface coverages comparable to those obtained with chlorosilanes. For activation a monolayer of H2O on the silica surface is sufficient. The most active catalyst in many cases has been p-toluenesulfonic acid, however, for silanes with basic groups Et3N gives better coverages. Silanes with polar groups tend to adsorb also with this group onto the surface thus preventing chem. binding via alkoxy groups. Long time experiences in the prepn. of amino phases, anion and cation exchangers and hydrophilic bonded phases for protein anal. are summarized.
IT **35141-36-7D**, reaction products with silica
RL: ANST (Analytical role, unclassified); **ANST (Analytical study)**
(as stationary phase, for anion-exchange liq. chromatog.)
RN 35141-36-7 CAPLUS
CN 1-Propanaminium, N,N,N-trimethyl-3-(trimethoxysilyl)-, chloride (9CI) (CA INDEX NAME)



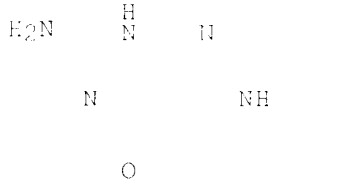
IT **919-30-2D**, 3-Aminopropyltriethoxysilane, reaction products with silica
FL: ARU (Analytical role, unclassified); **ANST (Analytical study)**
(as stationary phases, for liq. chromatog.)
RN 919-30-2 CAPLUS
CN 1-Propanamine, 3-(triethoxysilyl)- (9CI) (CA INDEX NAME)



IT **71-30-7, Cytosine 73-40-5, Guanine**
FL: ANT (Analyte); ANST (Analytical study)
(sepn. of, from nucleobases, chem.-bonded silica stationary phases for cation-exchange liq. chromatog.)
RN 71-30-7 CAPLUS
CN 2(1H)-Pyrimidinone, 4-amino- (9CI) (CA INDEX NAME)



RN 73-40-5 CAPLUS
CN 6H-Purin-6-one, 2-amino-1,7-dihydro- (9CI) (CA INDEX NAME)



L45 ANSWER 41 OF 41 CAPLUS COPYRIGHT 2002 ACS
ACCESSION NUMBER: 1986:417540 CAPLUS
DOCUMENT NUMBER: 105:13543
TITLE: Manipulation of stationary-phase acid-base properties by a surface-buffering effect. Boronic acid-saccharide complexation
AUTHOR(S): Lochmuller, C. H.; Hill, Walter B.

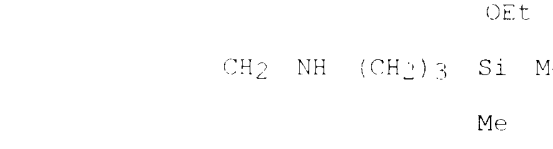
Searched by Barb O'Bryen, STIC 308-4291

AUTHOR(S): P. M. Gross Chem. Lab., Duke Univ., Durham, NC, 27706, USA

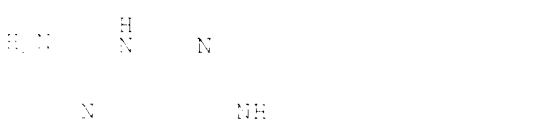
SOURCE: ACS Symp. Ser. (1986), 297 (Chromatogr. Sep. Chem.), 210-25
CODEN: ACSMC8; ISSN: 0097-6156
DOCUMENT TYPE: Journal
LANGUAGE: English

AB The use of boronic acid-substituted, amine-modified silica gel stationary phases for the HPLC sepn. of saccharides and nucleosides under neutral conditions was studied. Five stationary phases were prepd. using Partisil 10. The capacity factors for selected saccharides and nucleosides on columns packed with those stationary phases are given. The presence of residual amine groups in the surface bound, silica-based phenylboronic acid phases lowers the apparent pKa of the acid groups. This surface buffering effect permits boronate-saccharide complexation to occur at much lower pH values than is typically the case.

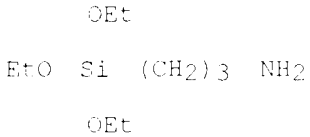
IT **102712-18-5D**, reaction products with silica gel
RL: **ANST (Analytical study)**
(as stationary phases for high-performance liq. chromatog. sepn. of nucleosides and saccharides)
RN 102712-18-5 CAPLUS
CN Boronic acid, [4-[[[3-(ethoxydimethylsilyl)propyl]amino]methyl]phenyl]- (9CI) (CA INDEX NAME)



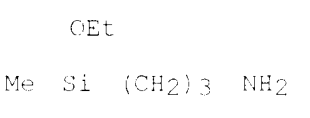
IT **73-40-5**
RL: ANT (Analyte); ANST (Analytical study)
(high-performance liq. chromatog. of, on boronic acid-substituted amine-modified silica gel stationary phases)
RN 73-40-5 CAPLUS
CN 6H-Purin-6-one, 2-amino-1,7-dihydro- (9CI) (CA INDEX NAME)



IT **919-30-2 18306-79-1**
RL: RCT (Reactant); **ANST (Analytical study)**
(reaction of, with silica gel)
RN 919-30-2 CAPLUS
CN 1-Propanamine, 3-(triethoxysilyl)- (9CI) (CA INDEX NAME)



RN 18306-79-1 CAPLUS
CN 1-Propanamine, 3-(ethoxydimethylsilyl)- (9CI) (CA INDEX NAME)



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